

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2091.—Vol. XLV.

LONDON, SATURDAY, SEPTEMBER 18, 1875.

[WITH SUPPLEMENT.] PRICE SIXPENCE. PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
Established 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds, (Foreign and Colonial), Railways, Miscellaneous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value. BUSINESS in all COLLIERIES and Iron Shares, and in the principal WAGON and MANUFACTURING COMPANIES OF THE NORTH OF ENGLAND AND SCOTLAND.

MR. J. H. CROFTS, having now established CORRESPONDING AGENCIES in all the Chief Towns of the United Kingdom, is prepared to deal in the various LOCAL Stocks and Shares at close market prices.

COTTON SPINNING SHARES Bought and Sold, including those of Oldham, Bury, Heywood, Darwen, Accrington, and neighbouring districts. This description of security can be purchased to pay the investor very fair interest upon outlay.

Accounts opened for the Fortnightly Settlement.

Monthly and Daily Price Lists issued.

Bankers: City Bank, London; South Cornhill Bank, St. Austell.

SPECIAL DEALINGS in the following, or part:—10 Asheton, 30s.; 50 Bog, 7s. 6d.; 20 Bampfylde, 20s.; 15 Birdseye Creek, 32s. 6d.; 30 Bryn Mawr Coal, 20s.; 20 Bilson, 21s.; 75 Chapel House, £3 17s. 6d.; 10 Cardiff and Swansea, £3 15s.; 10 Cedar Creek, 13s. 6d.; 50 Caldbeck Fells, 8s. 6d.; 5 Cape Copper, £24 1/2; 10 Colorado, £2 12s. 6d.; 20 Cathedral, 50 Chontales, 13s. 9d.; 10 Chicago, 100 Don Pedro, 10s. 6d.; 40 Devon Consols, 20 Emma, £15 1/2; 25 Eberhardt, £28 1/2; 30 East Caradon, £14 1/2; 50 Flagstaff, 30 Frontino, £1 1s. 3d.; 30 Gold Run, 10s. 6d.; 5 Great Lacey, £16 10s.; ex div.; 20 Last Chance, £1 5s.; London and Ashton Corkwood, 20 Ladywell, £3; 15 Marke Valley, £3; 50 Newfoundland, 17s. 6d.; 50 Old Trebutrett, 4s. 9d.; 200 Positive Assurance, 30 Pateley Bridge, 50 Parys Mountain, 13s.; 20 Pennerley, 60 Penrithal, 11s. 3d.; 100 Plynlimmon, 15s.; 15 Richmond, £2 7s. 6d.; 20 Thorp's Gawber, £2 5s.; 15 Sweetland, £23 1/2; 20 St. Patrick, 20s.; 20 West Maria, 8s. 6d.; 20 West Godolphin, 20 Van Consols, £2; 30 West Bankerville, 10 West Chiverton.

N.B.—BUYER of Positive Assurance Shares. WANTED North Eastern Banks. OFFER WANTED for 20 Milford Dock Shares, 6 per cent. guaranteed during construction.

* Shares sold for forward delivery (one or two months) on deposit of 20 per cent.

Business on hand in all the leading TIN, COPPER, and LEAD Shares.

RAILWAYS.—SPECIAL BUSINESS. Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

PLYNIMMON LEAD MINE.—SPECIAL BUSINESS in these shares.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER,
44, THREADNEEDLE STREET, LONDON, E.C.

Transacts business in MINING and COLLIERIES Shares of every description. English and Foreign Stocks, Colonial Government Bonds, Railways, Banks, and Miscellaneous Shares, and all Securities dealt in on the London Stock Exchange, for INVESTMENT or SPECULATION.

Purchases and Sales negotiated in Unmarketable Stocks and Shares. Speculative Accounts opened for the Fortnightly Settlement.

References given and required when necessary.

A Stock and Share List forwarded to bona fide Investors free on application.

Bankers: The National Provincial Bank of England, E.C.

SPECIAL BUSINESS in the undermentioned, at close market prices:—

Bog, Emma (Silver), Roman Gravel, Richmond, South Cornhill, Sweetland Creek, St. Patrick, Tankerville, Tincroft, Van, Parys Mountain, Penrithal, West Chiverton, West Tankerville, Port Phillip.

IMPORTANT.—Intending investors should lose no time in securing shares in well-selected mines at the low quotations now ruling, as an early and substantial advance may be confidently relied upon. Provided proper discrimination is exercised in the selection, there are, at present few, if any, other securities in the market which offer such a favourable field for investors, and considering the extremely low prices of the majority of shares in sound dividend and progressive mines, anyone investing now has the advantage of a minimum of risk, and will in all probability be enabled to realise handsome profits within a short period.

W. H. B. will be happy to furnish, on application, a list of shares which are likely to have an early rise in market value.

WILLIAM HENRY BUMPUS, SWORN BROKER.

OFFICES—44, THREADNEEDLE STREET, LONDON, E.C.

MESSRS. PYNE AND ASHMEAD,
CITY MINING AGENTS.

LONDON MANAGEMENT OF COMPANIES UNDERTAKEN. ACCOUNTS AUDITED, LIQUIDATIONS CONDUCTED.

6, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

FERDINAND R. KIRK, STOCKBROKER,
5, BIRCHIN LANE, E.C.

Consols, Foreign Bonds, Railways, and every security quoted on "Change bought and sold.

Bankers: London and Westminster, and City Bank.

Clients giving the usual "cover" can open accounts for the fortnightly settlement. Coupons collected and drafts cashed free of charge. References given when necessary in most of the leading towns of the United Kingdom. Commission on Railways 5s. per cent.

SPECIAL BUSINESS in Glaisdale Quarry, Alltani Colliery, Eberhardt, Cape Copper, Cardiff, and Chapel House.

JOHN RISLEY (SWORN), STOCK AND SHARE BROKER,
77, CORNHILL, LONDON.

Turkish Six Per Cents. of 1854, 1858, 1862, 1865, 1871, and 1873 specially recommended; also Wheat Grenville, Treleigh Wood, Parys Mountain, Wheel Peavor, and Crebora shares.

Business transacted at the following rates of commission:—Foreign Stocks, 1/4 per cent.; and Mining Shares of £4 each and upwards, 1 1/2 per cent.; under £4, 1s. per share.

MESSRS. ENDEAN AND CO., STOCK AND SHARE DEALERS,
85, GRACECHURCH STREET, LONDON, E.C.

Government and every negotiable Stocks dealt in for cash or account. Orders and telegrams punctually attended to.

MR. THOMAS THOMPSON, JUN., 1, PALMERSTON BUILDINGS,
BISHOPSGATE STREET, LONDON, E.C.

Some valuable hints as to the purchase of mining shares will be found in Mr. Thompson's "Investment Circular" for Sept. now ready, post free, price 6d.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER,
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C.

(Established 25 Years.)

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
20, BISHOPSGATE STREET, LONDON, E.C. (Established 19 Years.)

can sell the following SHARES, at prices annexed:—

30 Alltani Colliery, 60 Frontino, 22s. 50 Parys Mountain, 13s. 25 Birdseye, £1 13s. 9d. 50 Glaisdale, 20s. 40 Parys Mount, 13s. 40 Bedford Unit, 17s. 6d. 75 Javali, 15s. 3d. 40 Bog, 7s. 6d. 20 Ladywell, £2 16s. 3d. 40 Caldbeck Fells, 8s. 6d. 25 Last Chance, 18s. 9d. 40 Chapel House, 15s. 1/2 20 Marke Valley, £23 1/2 50 Cathedral, 25s. 20 Monydd Gorrdu, £24 1/2 50 Cedar Creek, 13s. 6d. 10 New Shariston, £23 1/2 75 So. E. Grav., 12s. 6d. 20 Colorado, £2 11s. 20 New Quebrada, £23 1/2 20 Don Pedro, 14s. 20 Pennerley, £21 1/2 40 East Caradon, 32s. 25 Prince Patrick, £3. 40 Emma, £1 13s. 9d. 20 Port Phillip, 16s. 3d. 15 Eberhardt, £28 1/2 70 Penrithal, 11s. 3d. 20 Flagstaff, £1 7s. 6d. 70 Penrithal, 11s. 3d.

INVESTMENTS IN STOCKS AND SHARES.—
BRITISH AND FOREIGN STOCKS AND SHARES BOUGHT AND SOLD.

List of Prices and other information sent on application.

Bankers: The Alliance Bank (Limited), London.

MR. P. WATSON, 79, OLD BROAD STREET, LONDON, E.C.

(Close to Stock Exchange.)

FINANCIAL OPERATIONS NEGOTIATED.

MR. ALFRED E. COOKE, STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON.

(Established 1855.)

Mr. COOKE offers the following Shares, free of commission:—

50 Bampfylde, 15 London & California, 40 Richmond Consol.

50 Cathedral, 26s. 20 Monydd Gorrdu, £24 1/2 5 Roman Gravel.

50 Caldbeck Fells, 8s. 6d. 10 New Shariston, 25 Saint Patrick, 22s. 6d.

20 Fir Tree House Coll. 55 No. Prince Patrick, 35 Tillywyd.

40 Frontino, 30s. 6d. 50 Pateley Bridge, 10 Tankerville.

40 Glaisdale, 20s. 100 Penrithal, 10s. 9d. 5 Van.

25 Llanyrwst Lead, 50 Positive, 15s. 50 West Maria, 6s. 6d.

50 Plynlimmon, 7s. 9d.

Shares having no quotations affixed may be had at lowest market prices.

Business transacted in nearly all Coal, Iron, Manufacturing, and Miscellaneous Shares.

Now ready, Mr. COOKE's Monthly Circular, with valuable tabulated form of investments; most useful for reference. Send address, with stamp.

MR. T. E. W. THOMAS, SWORN SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.

Established 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:—

Buyers. Sellers. Buyers. Sellers.

Birdseye Creek, 1 1/2... 1 1/2 Plynlimmon, 7s. 9d. 7s. 9d.

Bog, 7s. 6d. 7s. 6d. Port Phillip, 15s. 17s. 6d.

Carn Brea, 50... 52 1/2 Prince of Wales, 2s. 4s.

Chapel House, 3 1/2... 4 Richmond, £9... £9 1/2

Devon Great Consols, 3... 3 1/2 Roman Gravel, 11 1/2... 12

Dolcoath, 47... 48 St. Patrick, 1... 1 1/2

Don Pedro, 12s. 14s. South Carn Brea, 1 1/2... 1 1/2

Eberhardt, 8 1/2... 8 1/2 South Croft, 13... 14

East Caradon, 1 1/2... 1 1/2 So. Roman Gravel, 10s. 12s.

East Lovell, 7... 8 So. Prince Patrick, 13... 13 1/2

East Pool, 15... 15 1/2 Sweetland Creek, 2 1/2... 3

East Van, 1 1/2... 1 1/2 Tankerville, 10... 10 1/2

Flagstaff, 1 1/2... 1 1/2 Tincroft, 25... 26

Gawton, 12s. 6d. 15s. Van Consols, 24... 26

Gold Run, 3... 3 West Chiverton, 16... 17

Hingston Down, 1 1/2... 1 1/2 West Maria, 6s. 8s.

Javali Valley, 14s. 16s. West Tankerville, 13... 13 1/2

Marke Valley, 2 1/2... 3 Wheel Crebora, 2 1/2... 3

New Quebrada, 3 1/2... 4 Wheel Jane, 3... 3 1/2

Parys Mountain, 12s. 12s. Wh. Kitty (St. Agnes), 2 1/2... 3 1/2

Pateley Bridge, 6... 7 Wheal Uny, 2 1/2... 3

Pennerley, 1 1/2... 1 1/2

Penrithal, 10s. 6d. 12s. 6d.

MR. W. TREGELLAS, 122, BISHOPSGATE STREET
WITHIN, E.C.

Deals in all descriptions of Stocks and Shares at close market prices.

MESSRS. HARLAND AND CO., STOCK AND SHARE
DEALERS, 235 and 236, GRESHAM HOUSE,

OLD BROAD STREET, LONDON, E.C.

Bankers: London and County Bank.

Messrs. H. and Co. have Special Business in Chapel House and Alltani Collieries Shares, also in the shares of the Oregon Gold, and the Patent Ligno Mineral Paving Companies, and will be happy to give full particulars of the above desirable investments on application.

Dealings at closest market prices in all kinds of Stocks and Shares.

MESSRS. HARVEY, JORDAN, AND CO.,
MINING ENGINEERS AND AGENTS, ACCOUNTANTS, AUDITORS,

MANAGERS OF PUBLIC COMPANIES, &c.

In connection with Messrs. TEAL, FOSTER, and Co., Georgetown, Colorado.

Mineral Properties Inspected.

LONDON OFFICES—30, MOORGATE STREET, E.C.

THE LLANTHRISSANT TIN PLATE WORKS.

THE PLANET SILVER MINING CO.

JAMES STOCKER, STOCK AND SHARE DEALER,
2, CROWN COURT, THREADNEEDLE STREET.

Bankers: London and Westminster.

J. S. TRANSACTS BUSINESS in Railway Shares, Stocks, Debentures, Bank, Telegraph, Insurance, Gas, and Miscellaneous Shares having no regular quotation.

Accounts opened for the fortnightly settlement, and shares sold for forward delivery on receipt of cover.

SPECIAL BUSINESS in the following British and Foreign Mines, Colliery, and other Shares:—

10 Birdseye, 33s. 30 Grogwinion, £2 13s. 9d. 30 Rio Tinto.

15 Bilson and Crump, 80 Gawton, 12s. 6d. 50 Richmond, £29 1/2.

70 Bog, 7s. 6d. 85 Hingston Down, 21s. 9d. 120 Rica, 4s. 6d.

40 Caldbeck Fells, 8s. 6d. 20 Hornachos, 7s. Rookhope.

45 Clec Hill, 4s. 6d. 15 Hudson's Bay, 30 Sweetland, £2 18 s. d.

50 Cathedral, 25s. 6d. 35 Javali, 16s. 100 South Aurora, 10s.

30 Cedar Creek, 13s. 9d. 35 Last Chance, 21s. 25 So. Carn Brea, 37s. 6d.

3 Carn Brea, 50 Ladywell, £2 16s. 9d. 45 So. Roman Grav., 17s. 6d.

75 Chontales, 12s. 6d. 50 Malpasco, 10s. 6d. 40 St. Patrick, 22s.

45 Colorado, £2 13s. 9d. 55 Malabar, 9s. 30 Thorp's Gawber, £7 1/2.

10 Cook's Kitchen, 40 Marke Valley, £2 17 s. 6d. 100 Teocoma, 12s. 6d.

75 Don Pedro, 15s. 30 Native Guano, 15 Tankerville, £10 7s. 6d.

20 Devon Con., £2 16s. 9d. 65 New Quebrada, 10 Tincroft.

30 East Caradon, £1 1/2. 60 Old Trebutrett, 4s. 5 Van, £24 1/2.

40 East Van, 40 Pateley Bridge, 10 West Maria, 7s. 9d.

35 Emma, £1 1/2. 50 Penrithal, 10s. 6d. 50 West Maria, 7s. 9d.

20 Eberhardt, £28 1/2. 50 Pennerley, 30s. 6d. 30 Western Andes, £5.

20 Flagstaff, 25s. 90 Port Phillip, 15s. 15 Wheel Kitty, £2 1/2.

60 Frontino, 32s. 6d. 50 Plynlimmon, 6s. 9d. 40 W. Tankerville, 28s. 9d.

70 Gold Run, 10s. 6d. 70 Parys Mountain, 12s. 16 Wheel Jane.

10 Great Lacey, 90 Prince of Wales, 3s. 6d. 10 Wheal Grenville.

60 Great W. Van, 6s. 9d. 40 Pr. Patrick, £2 13s. 9d. 10 Wheal Uny.

MR. T. P. THOMAS, MINING AGENT AND SHAREDEALER,
3, CROWN COURT, THREADNEEDLE STREET, LONDON.

Business transacted in Mining and Colliery Shares of every description.

T. P. THOMAS is prepared to give reliable advice and information as to the state and prospects of the following mines upon bona fide applications in all of which he is in a position to do business:—

FOREIGN. ENGLISH TIN & COPPER. ENGLISH LEAD MINES.

Richmond, Wheel Jane, Van.

Javali, Wh. Kitty (St. Agnes), Tankerville.

Don Pedro, South Cornhill, Roman Gravel.

Mark Valley, East Caradon, Pennerley.

80 Roman Gravel.

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,

3, GREAT ST. HELEN'S, LONDON, E.C.

MESSRS. A. W. THOMAS AND CO.,
10, COLEMAN STREET, E.C.,

MINING AGENTS, AND STOCK AND SHARE DEALERS.

Price Sixpence.

"INVESTMENTS AND SPECULATIONS FOR 1875."

HENRY CAMERON AND CO., STOCK AND SHARE BROKERS
AND DEALERS, 36, NEW BROAD STREET, LONDON, E.C.

HAVE SPECIAL BUSINESS in Sound Dividend-paying Cotton Manufacturing and Spinning Companies. Also, in non-risky Mining Shares—as Chicago Silver, Gold Run, and other sure Mines.

Cameron's "Investment Gazette" sent on receipt of three stamps.

MESSRS. MARSHALL, BROWN, AND CO.,
STOCK AND SHARE DEALERS.

63, CORNHILL, LONDON, E.C.

Some Bampfylde Shares FOR SALE at a low price.

GROSVENOR, ENTWISLE, AND CO.,
(LATE GROSVENOR AND CO.),

STOCK AND SHARE BROKERS,

88, PORTLAND STREET, MANCHESTER.

MESSRS. J. TAYLOR AND CO., 86, LONDON WALL, E.C.,
and MINING EXCHANGE, SOUTH KING STREET, MANCHESTER,

MINING ENGINEERS AND INSPECTORS.

Business done in all descriptions of Stocks and Shares.

MR. R. PERCY ROBERTS,
FINANCIAL AGENT.

60, ENGLISH STREET, CARLISLE.

MR. TIMOTHY HUGHES,
59, SEEL STREET, LIVERPOOL.

The Registered Office of the PRINCE PATRICK GROSVENOR, WEST BRYN CELYN, CENTRAL FOXDALE, and GREAT EAST FOXDALE LEAD MINING COMPANIES (LIMITED).

Full information respecting these Mines forwarded on application.

RELIABLE INFORMATION given respecting Mines in the Isle of Man, Flintshire, and the neighbouring districts.

MR. EDWIN SKEWIS, WASHFORD, TAUNTON,
MINING AND MECHANICAL ENGINEER,

SURVEYOR AND VALUER.

Engineering Plans and Sections. Specifications and Estimates prepared for all kinds of Engineering Work. Surveys of every description made and levels taken.

Mines managed. Machinery erected. Reports on Mineral Properties. References. IRON ORES A SPECIALITY.

MR. JOHN SPRAGUE, late General Manager of the El Dorado
Gold Mining Company, Nova Scotia, SEEKS similar EMPLOYMENT

or INSPECTION in any healthy part of the world. First class references.

Address, Tenby Villa, Holloway, N., London.

SHARES WANTED.—5 Basset, £25 1/2; 15 Kitty, £22 1/2; 25 East
Caradon, £15 1/2; 25 Marke Valley, £23 1/2; South Frances, £3 1/2; Providence, £3; Rosewall Hill, 4s. Or state lowest price.

NEW SHARLTON.—SELLER of 10, at £23 1/2.

H. B. RYE, 77, OLD BROAD STREET, LONDON, E.C.

COALS.—COALS.—COALS.—
Mr. H. B. RYE, having been appointed Agent to an extensive Colliery Company, is PREPARED to CONTRACT for ANY QUANTITY, and of a superior quality, at 7s. 6d. free on board at Swansea.

77, Old Broad-street, London, E.C.

WANTED, in an Engineering Works, a MANAGER, thoroughly
acquainted with MINING WORK and with SHOP MANIPULATION.

Address, stating particulars of experience, salary expected, &c., to "C. C.,"

MINING JOURNAL Office, 26, Fleet-street, London.

WANTED, to PROVE a SILVER-LEAD MINE, on which four
Gentlemen have expended £2500, and for which one-third of the Mine will be reserved, FIVE THOUSAND POUNDS for the remaining two-thirds.

Lode 40 ft. wide; good machinery; and engine-shaft sunk 30 fms. under adit.

The trial is pronounced by the best authorities as almost certain to prove as rich a Mine as any worked in the Principality.

All information and particulars may be had by addressing, "C. R. R. and F.,"

MINING JOURNAL Office, 26, Fleet-street.—Sept.

NOTICE TO BRITISH AND FOREIGN MINING COMPANIES.

CONTRACTS FOR HIGH AND LOW CLASS ORES, HALVANS, SKIMPINGS, BURNT LEAVINGS, &c. TENDERS ARE INVITED FROM MINES IN A POSITION TO SUPPLY THE ABOVE.

Forms of tender and all information may be obtained on application to the Profit Union (Limited), 8, Union-court, Old Broad-street, London, E.C.
STEPHEN H. EMMENS, Managing Director.

THE METAL TRUST.

This Trust has been instituted under the auspices of the Profit Union (Limited) for the purpose of providing funds for the erection of works adapted to the treatment of low-class metallic ores by Emmens' "Nascent Copper" and other processes.

At the Emmens United Mines and the New Consols Tin and Arsenic Works (Limited) this treatment has been for some time past in operation to the extent of upwards of 800 tons of ore monthly. The result has been to prove, on a large scale, that by this means ore containing as little as 1½ per cent. of copper and 3 ozs. of silver to the ton may be treated at an average profit of over 10s. per ton, and that this profit is proportionately augmented with every increase in the richness of the ore. Much of the poor ore treated at the Emmens United Mines, for example, yields a net profit of from 20s. to 30s. per ton.

It must be remembered that the low-class ores in question are not sufficiently productive to be saleable in a raw state, and are usually thrown aside as waste, the quantity of such wastes produced at most mines being far in excess of the ore actually sent to market. Hence the returns of these mines would be materially increased by the adoption of the "Nascent Copper" process.

The difficulty to be contended with is simply a want of capital for erecting the necessary works, and if this capital could be advanced there are numerous mines ready to offer unimpeachable security and very advantageous terms for its employment in this manner, as they would thus soon be enabled to enter the dividend-paying list.

To meet this requirement the Metal Trust has been formed for the issue of bonds, secured upon the buildings, plant, and machinery provided and acquired from time to time by the Profit Union (Limited) in the execution of contracts entered into with various mines for the treatment of metallic ores.

These bonds are issued to bearer for the sum of £10 each, and the price of issue is 4s. payable as follows:—

- £1 on application.
- 2 on allotment.
- 5 three months after allotment.

Coupons for interest at 8 per cent. per annum, payable half-yearly are attached to the bonds, and redemption at par (£10 per bond) is effected by annual drawings, extending over ten years from the date of issue, the bonds issued in each year constituting a fresh series for this purpose.

After providing for interest and redemption, and for the expenses of management (limited to 2 per cent. upon the amount of bonds current from year to year), any balance of profit that may remain from the carrying out of the contracts is divided into two equal moieties, whereof one-half is paid to the Profit Union (Limited), and the other is paid to the Metal Trust, the additional bonds thus created being drawn for and distributed by way of bonus amongst the existing bondholders.

The accounts of the Trust will be audited once in every six months by Messrs. Johnstone, Cooper, Wintle, and Co., public accountants, of 3, Coleman-

street Buildings, E.C., and a copy will be forwarded to every bondholder on application.

Dr. Stephens H. Emmens, the managing director of the Profit Union (Limited), and the proprietor of the Emmens United Mines, near Callington, in Cornwall, will superintend the business details, and will be assisted by the following gentlemen, whose skill and experience are well known, viz.:

- Dr. J. W. Perkins, F.C.S. (late of the New Consols Tin and Arsenic Works (Limited)).
- Capt. H. Bennett (Emmens United Mines).
- Capt. W. Knott (Emmens United Mines).
- Capt. G. Spargo (late of the Newton Heath Reduction Works).
- Capt. Thos. Nell (Harewood Consols).

It will thus be evident that the Metal Trust is an industrial undertaking of a legitimate character, and must confer great benefits upon the mining establishments of the country. At the same time its bonds constitute a perfectly safe investment, as they are secured upon substantial property; while the terms of interest, redemption, and bonus are such as to render them more than usually remunerative.

Without attempting to institute invidious comparisons, it may be observed that the Metal Trust is not loaded by any promotion money or preliminary expenses, and that the bondholders will have the satisfaction of knowing that their subscriptions are wholly devoted to the useful and profitable purpose for which they are contributed.

Application for bonds must be made on the accompanying form, which together with the deposit, must be forwarded to the undersigned, at the office of the Profit Union (Limited), 8, Union Court, Old Broad-street, London, E.C. August, 1875. By order, STEPHEN BOOME, Secretary.

FORM OF APPLICATION FOR BONDS OF THE METAL TRUST.

To the Managing Director of the Profit Union (Limited).

SIR,—Having paid you £ , being a deposit of £1 per bond upon bonds of £10 each of The Metal Trust, I hereby request you to allot me such bonds, and in the event of your so doing I agree to pay you the further sum of £7 per bond by the instalments set forth in the annexed prospectus of the Trust.

Full name
Address
Date Occupation

FORM OF RECEIPT.

(To be signed by the Bankers of the Profit Union, Limited, and returned to the applicant.)

Received of Mr. the sum of £ , being a deposit of £1 per bond in respect of an application for bonds of the Metal Trust.

ROYAL CORNWALL POLYTECHNIC SOCIETY.

The forty-third Annual Exhibition of the Royal Cornwall Polytechnic Society has been held this week at the Polytechnic Hall, Falmouth. It is a noteworthy fact that while almost every department of the exhibition was well filled, the mechanical department, which is in every way the most valuable, has been this year much larger than for several years past, containing a number of very interesting and important exhibits. This is a result upon which the supporters of this old and valuable society are to be heartily congratulated. It is no light matter to have collected together in such a remote corner of the kingdom such a display of works of engineering skill and practical utility. According to custom we give a survey of the exhibition, with special reference to those articles which are of interest to mining men.

Three kinds of boring machines are entered, and but for untoward circumstances there would have been more. These three were the Beaumont Diamond Drill; the Levett and the Ingersoll Drills. Through some delay on the railway the Diamond Borer did not arrive in time to be inspected by the judges in the mechanical section at their first meeting, and although the Levett did arrive there was no one in charge to get it to work. The trials were at the Falmouth Docks. The principle of the diamond rock borer is generally known. It has an oscillating movement of the borer or drill, which is armed with black diamonds, whereby their superior hardness do the cutting.

The Ingersoll Rock Drill, exhibited by Messrs. Le Gros Silva and Co., London, with a rose bit, bored a hole in a block of granite 14½ in. deep in 5½ minutes, and with a flat bit in about the same time. There did not appear to be the slightest tendency to "fitcher." The Ingersoll is an American drill of the automatic or self-feeding kind, and has an excellent character given it for actual work; both in America and here the rotation of the drill is caused by a series of rings turned in the piston, and the violence of the shock is lessened by the use of a couple of tappet levers working through a small arc. There is a decided feeling in Cornwall, in which the judges participate, that the automatic action being gained at the expense of complication it is not the best, and that the man in charge of a borer might as well be engaged in advancing it as in simply looking on, for with a self-feeder his duties, when it is set to work, are very little more. It had a first bronze medal.

Boring-machines cannot be driven without power, and the peculiar advantages which air-compressors offer as the means of that power in connection with mines renders the improvement of these forms of machinery important. Very recently, in Cornwall, it was found impossible to work a new borer because of defects in the compressor. Mr. Warrington, to whom in 1873 the society awarded a first silver medal for his Kainotomon borer, this year exhibited one of his Air-Compressors, which was inspected with a good deal of interest.

Messrs. Tangey and Holman, London, have several important exhibits, including a couple of their well-known "special" Steam-Pumps, of which many thousands have been sold. One of these was worked at the gasworks, fitted with Holman's patent pump-valves and Holman's patent exhaust steam-condenser. This last is a very simple and effective arrangement. The exhaust steam is brought immediately into contact with the water—the old Jack condenser principle—but in a novel and highly ingenious way, the steam rising to the water instead of the water falling on the steam. The water is brought into a thin film, with which the steam, rising through an annular space, comes into contact. The whole arrangement is very compact. By the use of these condensers a pair of colliery engines at Wigan had their power increased 50 per cent. Holman's patent Buffer-Valves and Seats were also a special feature—18,000 have been used at all bends, up to 1000 ft., and they have been worked with a 500-ft. bend three years without changing. The judges admitted the utility of the buffer arrangement, but held that in most cases valves could be used which would render the buffers unnecessary. The seatings are made of hard india-rubber, and can be exchanged, and the valves made equal to new, with the utmost ease. Holman's improved Three-way Blow-through Valve is a very useful invention—certain in use, and giving much larger area than the three-way cock. The condensers received a second silver medal, the blow-through valve a first bronze, and the buffer-valves were commended.

Mr. Henry Davey's Differential Expansive Pumping-Engine was exhibited in working model by Messrs. Hawthorn, Davis, Campbell, and Davey, of Leeds. There are two forms of this engine—single cylinder and compound. The chief peculiarity in the invention is the manner in which the invention is made perfectly safe for working under all conditions of load, automatically and instantly varying its supply of steam with very minute increases or decreases of resistance. The model shown was the compound form, with quadrant, and very steadily and effectively elucidated the principle, but there was naturally a difference of opinion concerning its superiority over the

Cornish engine. The principle of the differential gear is that the valves of the engine have a motion resulting from two other motions—the first an independent constant motion, and the second the motion of the engine, a dependent variable motion. Any change in the latter produced through the gear a corresponding variation in the distribution of steam. By means of this gear the principle of the differential engines can be applied to the Cornish pumping-engines. A second silver medal was awarded.

Baker's Rotary Pressure Blower, exhibited by the Savile-street Foundry and Engineering Company (Limited), Sheffield, is made entirely of iron, and contains three drums, each of which is one solid casting, the two lower being slotted their entire length to allow the wing of the central drum to pass, as each drum only acts as abutments alternately the power required to drive them is only sufficient to overcome the friction of the journals. With a fan, if more than 16 ozs. of pressure are required, the air must be taken from one to another, but with the Baker blower, which uses only half the power of the fan, 3 lbs. have been obtained. This is not sufficient for a blast-furnace, but one is now constructing to give 5 lbs., which will be. For a cupola to run 4 tons per hour 8 or 9-horse power would be indicated, a saving as compared with a fan of about 80 per cent. The blower is used also for exhausting and ventilating, and a large one is now under construction for the Clay Cross Colliery, to deliver 50,000 cubic feet per minute. Every revolution sends on the same quantity of air. The blower worked exceedingly well. The silver medal of the Franklin Institute, Pennsylvania, as well as the Scott Legacy medal and premium, were awarded to it, after a thorough testing with the Root Blowing Machine, so well known for its excellence. The Royal Cornwall Polytechnic Society have now given it the first silver medal.

Mr. W. Husband sent a beautifully made working model of his patent Pneumatic Stamps (not for competition), embodying the latest improvements. These are numerous and important. All wear in the lower portion of the lifter is now prevented by the ingenious expedient of casing it in an ordinary tube of steel, cut in a short length as required, and jammed on into position. As it wears this can be replaced, while the bottom of the lifter remains intact. This is a very important point, not merely in economy, but convenience. Formerly, too, the head was allowed to turn, but it was found in practice that it was apt to assume one position, and so wear. Now the head is prevented from turning by a clamp, which, however, admits of its being turned when desired, and it is found that a quarter of a turn a-day produces perfectly equable wear. By an improvement in the "pass," which is made of the right bevel, while there is careful adjustment to the right height of feed, the stamps now are perfectly self-acting, and may be left to stamp 30 to 40 tons without further attention. Further simplification has been secured by doing away with the water chamber, whence the water passed down by the side of the rod and prevented the stuff rising, and substituting two single jets. Four of these stamps have been working daily for 14 months at Crenver without repair, and now only two of the cylinders want re-boring. The cylinders are cast as hard as possible. At Carigann there are 20 heads of these stamps, 10 of which stamp 100 tons a-day. One ton of stamp head stamps 1400 of stuff, and the consumption of coal is two-thirds of a cwt. to a ton. These stamps are guaranteed to work anywhere.

The Keystone Forges and Cyclops Blower of Messrs. Rowson, Drew, and Co., London, were likewise shown. The Keystone forges from their portability and efficiency have won approval during the last few months in every part of the kingdom where they have been introduced. The Cyclops blower is a more recent invention, and appears destined to a still greater success. It is easily worked, and most efficient; and, as a matter of economy, leaves bellows nowhere. The driving band from the main wheel is a cord chain, the bearings of the fan are long and self-lubricating. The same firm also exhibited a patent alarm for railway stations, &c., which works without springs, and signals to sight as well as to hearing, an arrow-headed arm being thrown out at each stroke of the bell. The blower and forges had first bronze medals, and the alarm a second.

An instrument for the purpose of showing at a glance the number of revolutions of a steam-engine, or any other machine having rotary motion in working, was sent by Mr. Tremayne, of Devonport. It consists of a stand and a driving shaft, and keyed thereon a grooved pulley, and a mitre-grooved friction wheel, the latter sliding on a feather, and acted on by a spiral spring. The shaft is driven by a catcut band from the engine to which it is attached. A corresponding mitre-wheel is keyed on the lower side of the fly-wheel, on the upper side of which are two half-balls secured by joints. These balls expand on the governor principle, and indicate the speed by a needle on a dial. The whole arrangement is decidedly good, and a first bronze was awarded. The indicator has been thoroughly tested on board the Achilles.

A model of a very valuable invention was forwarded by Mr. J. H. Ladd, Manchester—the Boomer and Boschot Press, for which we are again indebted to America. It is a rival of the hydraulic

press, and the power is applied by a right and left hand screw and knuckle-joint, the leverage developed being literally enormous. It is worked either by hand or power, and in general utility appears unrivalled. First bronze medal.

Leeche's Patent Colliery and Mine Signal—a very ingenious apparatus, by which the number of strokes on a bell are indicated on a dial, was sent by the Pepper Mill Brass Foundry Company, Wigan. First bronze medal.

Messrs. Bastin and Co., West Drayton, forwarded Brunton's Patent Grindstone Dresser, which has been proved of great efficiency. It has a disc cutter, is bolted or clamped on the grindstone trough, and one or two cuts taken across the stone while it is revolving, just sufficient to remove all grooves and irregularities. Commended.

Messrs. Landau, London, sent their Safety-Lamps, which are excellently reported on for collieries, but have no special application in Cornwall, and could not, therefore, be tested by the judges.

Models of Lithofractor Cartridges, with descriptive essays, came from Messrs. Krebs and Co.

Messrs. Ransome and Co., London, amongst a miscellaneous lot of small articles of general utility, including a coin assessor, lubricators, chucks, engine counters, &c., had a tube wrench, which had a second bronze.

The largeness of the display of valves of various kinds is quite a feature of the exhibition. There are Holman's Valves, already mentioned; Allen's Patent Steam-Packed Stop-Valve; a very interesting and well-made Series of Valves now or formerly in use in Cornish engines, by Messrs. Letcher and Hocking, in association with which may be mentioned models of the well-known Patent Four-Bent and Water-Safety Balance-Valves of Mr. W. Husband. Mr. Holt, of Leeds, also sends a series of valves.

In addition to the valves and a model of a non-buckling shearing machine, Mr. Holt also forwarded a Diagrammetre, computing by a single measurement the mean ordinate of any irregular figure. It resembles a rolling parallel ruler.

A sample of Rowat's New Patent Flexible Wire Pit-Rope Bands, which appear to be of great strength, and to alleviate the injury caused to wire-ropes of the ordinary construction in bending and unbending, was decidedly one of the novelties. It is made by Messrs. Rowat and Co., of Glasgow.

Morris's Measuring Instruments and Chartometers are arranged to suit various scales, and measure off distances by simply running a disc over them.

A very fine collection of Microscopes, Miners' Dials, and Dumpy and Draining Levels of various kinds were shown by Mr. Heath, optician, Plymouth, to which was awarded a second silver medal.

To an ingenious arrangement of a Walking-Stick, with Compass and Telescope—the "Galilean"—by Mr. L. Hosking, Ventnor, a first bronze was given.

M. de la Bastie's Hardened Glass excited much interest.

Messrs. Griffin had several of their Gas Furnaces for Conducting Chemical Operations at a White Heat without the aid of a blowing machine, and illustrating a new mode of supporting the crucible. This latter object is attained by leaving a central space round the central jet of the burner, and dropping over it an atmoppyre, similar to those used in Hofmann's combustion furnace, but of greater bulk and strength. This forms a solid support for the crucible, and brings its bottom exactly into the centre of the focus of heat. One of these new burners, consuming only 20 ft. of gas per hour, will melt ½ lb. of cast-iron in 35 minutes. They were commended.

Cruickshank's Self-Acting Safety Cleats are intended to prevent accidents to boats through their being struck by a sudden squall. They slack away the sheet of their own accord when the pressure is sufficient to upset the boat.

The Watchman's Watch and Watcher, a substitute for the old peg clock, was shown by Mr. J. R. Robertson, Manchester, and had a second bronze.

First prizes were given to Walker's Detaching Hook and Holmes's Fog Horn.

The delays in the arrivals of certain of the exhibits have been most vexatious. In consequence of this, Mr. Warrington's excellent Air Compressor, as already explained, was unable to receive the attention which it merited. As to the Beaumont Diamond Drill, that appeared to have been lost altogether, and when, on Wednesday morning, Major Beaumont arrived he found the drill still missing, but it turned up and was tried during the day. This was specially vexatious, inasmuch as it had been taken from work, and sent specially down. However, the Major introduced the subject at the meeting of the Miners' Association that afternoon.

The Class of Essays was this year of unusual importance. T. Daniel obtained Col. Tremayne's special premium of 3l. 3s. for an essay "On the Mineral Veins of Ding Dong Mine;" S. Mitchell and J. T. Letcher, a first silver medal for a paper "On Cornish Mine Drainage;" T. H. Allen, the third Mining Journal prize of 1l. for a paper "On the Improved Treatment of Ores and Minerals;" N. Skewes, 1l. 1s., for a paper "On the Mineral Veins of Gwinnear;" and J. Garland, a first bronze, for an account of "Phosphorite Mining in Nassau." Some of the papers were afterwards read at the meeting of the Miners' Association.

The paper "On the Improved Treatment of Ores and Minerals raised in Cornwall and Devon," by T. H. Allen, to which the third Mining Journal prize was awarded, does not contain any original suggestions, but brings together a quantity of matters referring to the treatment of mixture ores, in which one metal or mineral is usually destroyed in the process of obtaining either that which is most valuable or most easily obtained. Thus there are dealt with in succession mixtures of tin and copper ores, tin and wolfram, tin and mispickell, tin and mundic, tin and chalybite, tin and blende, chlorite, galena, quartz, and schorl or fluor-spar, blende and chalybite, chalcopryrite galena and blende, chalcopryrite and chlorite, &c. The paper thus is very creditable if not original, and shows that Mr. Allen has devoted a good deal of thought to the subject.

On Tuesday and Wednesday Mr. Handyside explained his mode of overcoming steep gradients on railways. Mr. Handyside's arrangement is very simple, and so far as can be judged by models, effective. It is in actual operation at the Avonmouth Docks, where it came under the notice of the most distinguished members of the British Association, and was pronounced to have in it all the essentials of success. The principle is this—to overcome steep gradients by doing away with stationary engines, and making the locomotive do double duty. This is effected by the use of self-acting gripping struts when the engine comes to a gradient too steep for its load—say, 1 in 10—it runs up by itself, paying out from a hauling-drum a wire-rope to which the carriages are attached. When the required distance is reached the struts are released, and they grip the rails so tightly that the load can then be hauled up to the engine. It in turn is held by the struts, and the process is repeated until the bank is overcome.

Dunstan's Helical Strainer not having been entered for competition, was withdrawn for the purpose of making a series of experiments on it, and a photograph and description were substituted in its stead. The object of this invention is to prevent the choking and fouling of strainers, roses, or drains placed at the bottom ends of suction-pipes, pumps, or other places. It is effected in the following manner:—The perforations of the strainer itself are made of such a size that no matter of any bulk or rigidity can enter them. The attachment of water-logged or partially water-logged matter, such as chips of wood, wood shavings, cotton-waste, cinders, &c., &c., to the outside of the strainer is prevented by two revolving helices, which are set in rapid motion by being attached to the propeller or "worm," which is placed in the suction-pipe, and actuated by the current of water running through it. These revolving helices have, from their shape, and the direction of their motion, a vertical wiping or scraping action over the surface of the strainer (from top to bottom). They are guarded from all derangement or accident by a set of outside stationary helices, which, being substantially made, not only act as guards to the inner ones, but form a continuous series of inclined planes, down which the detached matter is thrown.

It was not until Wednesday afternoon that the judges in the mechanical department were enabled finally to complete their duties. Fortunately, however, by that time the whole of the mining machinery had arrived, and could be set to work. The greatest in-

best was excited by the operation of the Diamond Drill. It could not be run at nearly its highest speed, but bored at the rate of 7 in. in five minutes, in hard granite, taking out beautifully clean cores. It was awarded a first silver medal. Mr. Warrington's Air Compressor was the next apparatus examined. The cranks were very ingeniously arranged, so that the greatest pressure of steam and the greatest pressure of air were obtained. A special feature is the mode in which water is admitted into the compressor for cooling purposes. The compressor is surrounded by a water-jacket. From a small hole in this jacket or tank water trickles into a little tube, which conveys it to a couple of shallow spoons, one placed under each valve of the compressor, the result being that when the air rushes in it sucks the water with it in the form of spray. Thus, the heat evolved in the process of compressing is entirely removed. The judges considered the compressor the most perfect of its kind, and gave it the special premium of 100. 10s. Mr. Warrington's "Standard" Steam Pump is exceedingly simple, having only two moving parts besides the piston and pump valves, and being at once, therefore, reliable, powerful and compact. They give pump quantity with slow speed, and therefore last long. A first silver medal was awarded. The illness of the exhibitor prevented the "Level" Borer being run in operation, but it was carefully examined by the judges, and the simple and effective way in which the movements are secured obtained for it a first bronze.

The President, Mr. Pendarves Vivian, M.P., delivered his address on Tuesday. After referring to the fitting out of the Arctic Expedition, and the importance of extending telegraphic communication to isolated lighthouses, Mr. Vivian dealt with the questions of coal supply and the tin trade. He said that on previous occasions he had made some allusions to the question of their coal supply. Since he last addressed them the South Wales coal field, which almost entirely supplied the wants of Cornwall, had been convulsed by the great and unhappy struggle between employer and employed. But it was now a thing of the past and most of the collieries affected were again at work. Coal was being shipped at some of the Welsh ports at prices as low as before the late high figures began. Of this he was sincerely glad for the sake of the mining community, which much required this little encouragement. He interestingly counselled those interested in the working of mines, however, not to relax their efforts to effect the greatest economy in fuel in the same way as when coal was at its highest. He said that the more earnestly because he did not think they could safely regard the present low price of coal as the normal price of the future. He believed that the present low prices were to a great extent attributable to a surplus supply of coal in Wales arising from the slackness of the iron trade. This latter trade was, as it were, leaving that part of the country in the late strike, and districts were going through a state of transformation from iron-producing to purely coal-producing districts. He would say a word with regard to the production of that and other countries. A Parliamentary return showed that the tin imported into the United Kingdom for the last five years had been a largely increasing quantity, no doubt in consequence of the high tin standard which prevailed during a portion of those years. The Billiton production had been greatly on the increase until 1873, when there was a slight falling off. Banca appeared to have attained its highest in 1874. These facts showed that there existed in foreign countries and in their own colonies vast quantities of rich deposits of tin ore which would be brought into competition with the productions of this country whenever the standard was sufficiently high to enable it to meet the high country carriage, labour, fuel, and materials with which it had to contend. He did not say there was any reason for being disheartened for the future, but it most certainly behooved them to fight against the natural advantages which foreign producers possessed—very large and rich deposits—by increased endeavours to produce with greater economy, by saving of fuel, labour, and materials, such as was to be obtained by improving machinery. By these means alone could they hope to compete with success with foreign rivals who had a high tin standard induced them to work larger rich mineral deposits Nature had given them.

Mr. BASSET, of Tehidy, who had been alluded to by Mr. Vivian, said the depression in the state of mining affairs in the county was a very serious matter. It was one to which he had given a good deal of consideration, and he had come to the conclusion that the time had arrived when it was the duty of all who were connected with mining to do what little they could to remedy matters. Of course he was aware that nothing they could do would in any way increase the price of tin, or prevent importation from abroad. It was quite possible, however, to do something to direct the energies of those who had the management of the mines in such a manner as would ultimately have the effect of making great improvements. And as the representative of a family which had derived a high tin standard from mineral wealth in the county, he felt it to be a personal duty to take the matter up, and to do what he could towards aiding improvement. His view was that the only means by which improvement in the condition of tin mining could be produced was the lessening of the importation of tin, or the carrying out of greater economy in production at home. He knew very little about the question of foreign importation, but he looked rather hopefully upon the prospects of its decrease, though certainly he had very little data on which to found his conclusions. As to production, there could be but one opinion, that it was the bounden duty of the men who managed the mines to do their very utmost to economise production. He found by some duty returns which had been prepared for him by Capt. Tonkin, of Dole, that while in 1842 the average duty of Cornish engines was 67 millions, in 1870 it was 51 millions, and in the first half of the present year 47 millions. They had not only had this falling, but they lost far more, because there should have been an advance. Many years ago an engine at the United Mines reached a duty of 128 millions, and he thought that by this time, if due improvement had been made, that standard might have been reached. He would suggest that six or seven men might combine together, and by a small subscription offer a prize to the engineman who should produce the greatest proportionate quantity of work. There might also be combination amongst mines to import their own coals, by which a great saving would be effected. The special point which he had taken up was the question of increased economy of working produced by the substitution of mechanical means of boring. He begged to offer a sum of 200l. towards a premium of not less than 500l., to be given to the inventor of any boring machine which, in the unanimous opinion of five referees, to be hereafter chosen, is generally applicable to, and capable, in an appreciable degree, of expediting and economising the working and driving of Cornish mines at a depth of not less than 100 fms. from surface. He did not anticipate that the mines should spend less money, but that they should drive more rapidly through barren ground, and make greater returns for the same expenditure. Mr. Bain had consented to act as one referee, and he hoped to name also Capt. J. Thomas.

PRIZE LIST.—The following are some of the prizes awarded. There are still several to be awarded in the mechanical department:—First silver medal to Baker's rotary blower; second silver medals to Holman's condensers; Davey's differential pumping engine improved "Y" level—W. Heath, Plymouth. First bronzes to Ingersoll rock-drill; Holman's blow-through valve; Cyclops blower and portable forges; Tremain's revolution indicator; Leech's signal apparatus for collieries; the Boomer and Boschart press; Hosking's Galilean walk-gate; Walker's detaching hook; and Holman's "Aurora" mechanical fog horn. Second bronzes to Bin's window-blower; Rowson's combined tube wrench and pipe cutter; Robertson's watch and watcher; Rowson's patent alarm. 25s. to Hookin and Letcher, models of valves; 12 11s. 6d. improved level—W. Barnett, 15, Is. each to W. H. and J. Bennett for inlaid tables; 1l. for workman-ship—model steam engine—W. Cadwell. Essays, &c.—First silver medal to "Essay on Cornish Mine Drainage," by S. Mitchell and J. L. Letcher. First Bronze Medal to "Phosphorite Mining in Nassau," by Capt. Garland, conditional on sketches and sections being supplied. Colonel Tremaine's special premium of 30l. Essay on Ding Dong Mine"—T. Daniel, conditional on cross sections being supplied. Third silver medal to "On the Improved Treatment of Ores and Minerals in Cornwall"—A. J. Agnew. One guinea, "Mineral Veins of Gwynne"—E. Skewes, conditional on a map being furnished. Highly Commended, "Iron Industries of the North of England"—W. Jago; and J. Griffiths' gas furnaces.

CORNWALL AND DEVON MINERS' ASSOCIATION.

The meeting of the Miners' Association of Cornwall and Devon was held on the Wednesday of the Polytechnic week, according to custom, on the Polytechnic premises. There was a very large attendance. Mr. W. C. Pendarves, the President, occupied the chair; and there were also among those present Sir E. St. Aubyn, M. P.; Mr. A. P. Vivian, M. P.; Major Beaumont, M. P.; Mr. Basset, and other leading gentlemen. The President in his opening remarks briefly, but forcibly, congratulated the association on the work which it was doing, and bespoke on its behalf further aid.

The Council, in their report, which was read by Mr. J. A. Collins, hon. sec., said the year of work just concluded had been in many respects one of great importance to the institution. Mining enterprise had been at a very low ebb, and this fact, too, had lost the Council several subscribers, and had also, in some degree, prevented the addition of new members. On the other hand, the teaching of the association had been more than ordinarily successful, the total of passes for the year having been 189 instead of 101, the highest number previously obtained. A large expenditure had been entailed by extended teaching operations; but soon after the last meeting a handsome donation of 50l. had been received from Mr. J. M. Williams, which, it was hoped, would enable the society to get through the year without increasing the debt. More ordinary members were, however, required.

Mr. DEANER KIRTO, F.G.S., the lecturer, in the course of his report, stated that the number of the classes of the association had been increased during the past year, and that the number of the pupils had been more than proportionately increased. This was owing, in large measure, to the increased experience of the district teachers, between whom the greatest possible harmony existed, every one being at all times ready to aid the others. He was very happy again to testify to the success of that place for increasing the facilities for acquiring technical information amongst the mining population of the county. The tea here at Penzance, Hayle, Treen, and St. Day, as well as the lecturer, had been selected to attend the course of training in practical chemistry at South Kensington during last July. The instructions there given were highly appreciated and fully valued; which was shown by earnest application in the laboratory, and the exceptionally good positions taken in the printed list of the order of attainments. Mr. William Jago, the teacher of the Hayle class, had, within the last few days, received notice that he had been elected to the nine-months course of training at South Kensington, and Mr. Kitto had no doubt Mr. Jago would do justice to that position. Two grades, for the principles of mining, a position which had not before been gained by the pupils of the association on this subject, involving as it did a knowledge of the principles of the science of mining. Notices had been given to the secretaries of the classes that three other members had worked papers of unusual merit, and had been recommended by the examiners to the Science and Art Department for Queen's medals. The subjects were chemistry, mineralogy, and steam. This, different subjects taught, showed that the instruction given was appreciated and the results substantial. The want of a good laboratory at Redruth or Camborne was much felt. In conclusion, Mr. Kitto said that he was getting together a class

to whom surveying would be taught by an experienced mine agent previous to the re-opening of the usual classes of the winter session.

The Council reported that the Mining Journal prizes were awarded to—Inorganic Chemistry, Matthew Rodda, A. 1, and laboratory practice, Mineralogy, Edward Skewes, A. 1, Principles of Mining, Thomas Collins, A. 1. Geology, Edward Mitchell, A. 2.

Mr. Collins then read the particulars of the following liberal offer from Mr. Basset, of Tehidy:—In order to stimulate research, experiment, and invention, and to promote the advancement of mining enterprise in Cornwall and Devon, Mr. G. L. Basset, of Tehidy, offers prizes under the following conditions:—1. For the discovery of a new mineral in Cornwall or Devon which is deemed likely to become commercially valuable, 500l. 2. For the invention of a method—mechanical or chemical—of making marketable, with commercial advantage, ores or minerals produced in Cornwall or Devon, and hitherto regarded as worthless or of little value. Or, 3rd, for the discovery of some new application of a mineral substance already known to occur in Cornwall or Devon—either by itself or in combination to some useful purpose, so as either to render it marketable, or to enhance its value—a prize of 500l.

The announcement was received with loud applause, and Mr. Basset explained that his great desire had been to take some steps which might possibly lead to the utilisation of some materials in the great mine burrows, with which they were all so familiar. He hoped to stimulate also the working of English superphosphate

The prizes will be at the discretion of the President and the Hon. Secretary of the Miners' Association and other gentlemen nominated by Mr. Basset, Mr. Collins being the hon. secretary.

"Phosphorite Mining in Nassau," by Captain JOSEPH GARLAND, F.G.S. The writer remarked that Nassau was rich in useful minerals and metalliferous ores, of which iron, manganese, and phosphorite were the most important. Phosphorite was not known in Nassau, or, if so, only as a mineralogical rarity, until 1864, and was then discovered by accident; and, on analysis, it was found to contain a large percentage of phosphate of lime. This led to further explorations and large discoveries, and the demand for it became so great that large quantities were shipped to England, and contracts entered into for the supply to English superphosphate manufacturers of several thousand tons per annum. Phosphorite was usually found imbedded in a red or brown tough plastic clay overlying hard limestone rock, and it occurred in beds; never in loughs. Strictly speaking, it was often found in nests or pockets of various thickness and extent, but rarely retaining the same thickness for more than a few fathoms. It appears in a variety of colours, but is mostly a yellowish-brown. The writer then proceeded, at some length, to give an interesting explanation of the mode of mining phosphorite, and, in conclusion, he stated that the great drawbacks to the use of the Nassau phosphorite for the manufacture of superphosphate was that, owing to the comparatively large percentage of iron and alumina it contained, the superphosphate made from it soon lost a portion of its solubility, and the manufacturer was liable to considerable loss on account of its depreciation. It was this fact which had brought it into such bad repute and militated against its general use, and the demands for it now had become so small that it might safely be asserted that phosphorite mining in Nassau would not be at present pay.

Major BEAUMONT, M.P., then proceeded to give a full and clear explanation of the character and capabilities of the Diamond Drill, with a view to ascertain whether it could be profitably introduced into Cornwall. The cutting material was not diamond in the gem sense of the word, but carbonite, which came from Brazil, and the uses of which were so little known that at first a hatfull was offered in vain at 4s. a cwt. Now it fetched 15s. to 20s. Pieces of carbonite were set in a "crown," and these "crowns" were then cut any rock known. The cutting was done by abrasion. In boring in quartz 30 ft. 994 in. would be abraded, whilst only 1 1/4th of an inch of the diamond would be expended, the proportion being thus 63,616 to 1. Major Beaumont explained the mode in which the borer was worked. For the shallower holes a screw was used to work it, in deeper, such as the Sub-Wealden boring, gravity was brought into action. The borer would bore in ordinary hard rock from 1 to 2 1/2 in. a minute, and they went in sandstone 1 in. a minute at a depth of 1500 ft. 2300 ft. were bored in one case in 130 days, ending at a diameter of 3 1/2 in. It was used for tunnels, subaqueous work, shafts, and prospecting, but for tunnel driving he believed it was too valuable a horse for its work, and he was using percussive drills in its place. He used it in shaft sinking, but not in competition with the percussive drill. Very remarkable results had been produced in subaqueous work. A rock on the Tees was being blown up by the agency of the borer, the shattered fragments being raised by a dredger at the rate of 2000 tons a day, the total cost being under 4s. a cubic yard. In prospecting the diamond drill was very useful, the special points of value being the cores brought up and the speed. He next came to the way in which he thought the drill would be of use in Cornwall. He quite saw that there was a great difference between prospecting for coal and for a lode, but he thought that the borer might be of value in sending boring exploratory holes in advance of a level in different directions, and also in letting off water by opening up drainage communication between different parts of workings. By its aid, too, the water in the St. Aubyn United Mines might have been tapped, and the lives recently lost saved. He claimed also that the borer would be of great value in ventilation, of necessity a difficult question in Cornish mines. It was quite extraordinary how much ventilation a small hole put down from the surface would give. If he could give them a machine which would put down holes in any direction, of any diameter, in the hardest rock of 3 to 4 inches, or even more, in diameter, was there any work that he and his machine could do in Cornwall?

Capt. COCKS, of Park-o Mines, asked Major Beaumont at once certain particulars of cost of boring in advance of a level to communicate with certain old workings in which there was a considerable heating water?—Major BEAUMONT replied that he would take his chance of the rock for 1l. per foot. If his company did not do the work they would have no pay.

Capt. JAMES asked if they could work in granite?—Major BEAUMONT replied that he would rather say they had bored in much harder rock than that.

Capt. JAMES asked if the drill could bore cheaper than hand labour?—Major BEAUMONT: Certainly not when percussive drills do the work, but the diamond drill did what hand labour could not do.

Mr. C. FOX wished to know if an exploring hole could be put in the bottom of Dolcoath shaft to try the lode in depth.—Major BEAUMONT replied in the affirmative.

Dr. FOSTER believed that the drill would be of use in sinking winzes if they could easily and cheaply put in a hole to drain. Great good could be done with regard to tunnelling.

Mr. W. HUSBAND was rather disappointed to find that Major Beaumont did not think the diamond drill applicable to driving tunnels and levels. But could percussive drills be advantageously so used? That was the important question.—Major BEAUMONT replied that they could, and that he quite believed that the diamond drill itself once introduced into the country there would be plenty of work found for it. If speed were wanted he could give it, for he could drive four times as fast as they did. At present no drill would do work as cheaply as by hand, though the drill would come when they would be able to do so. Mr. Basset's liberal offer of 200l. would, he hoped, produce good results if properly applied. None of the drills in use he thought answered the conditions, and as to speed he would have nothing to do with boring at a greater rate than 2 in. per minute. They must abandon all idea of a light machine, and they must adopt a different system of boring—boring several holes at once, and using the strongest explosives known. The only way to settle the question would be to set different machines to work in different levels, and let them do at least 300 yards, as there would not be time for the machines to knock themselves to pieces before that. Then speed and cost must both be taken into account, for himself he would do four times the speed at double the price.

Mr. BASSET pointed out that by the terms of his offer actual practical efficiency would be secured.

Mr. COLLINS was of opinion that the county of Cornwall could safely be trusted to select efficient referees.

Major BEAUMONT, in reply to a question, said his company would not care to contract for a smaller amount of boring than 300 yards.

The Deposit of Tin at Park-o Mines, Wadebridge. This was a paper by Dr. FOSTER, in which he dealt with the peculiarities of the tin deposit in Park-o Mines, near St. Columb, are set forth. The average of last year was 157 lbs. to the ton, and one spot has given 75 to 80 per cent. of black tin.

"Notes on the Pawton Iron Mine," by J. H. COLLINS, F.G.S. The red hematite hitherto worked in Cornwall occurs chiefly in a series of great fissures which crosses the centre of the county on a line nearly coincident with the magnetic meridian—from a point a few miles of St. Austell on the south, to the estuary of the Camel at Padstow on the north, which fissures form a series of overlapping faults. On the line referred to red hematite has been worked going north; at the Ruby Mine, Knighton, Trevelyan, and Resunga, Coldbriggan, Withiel, and Pawton. The same ore has been seen at Rosevear Moor, Berrery, Tresidale, and other places. The Ruby and Pawton mines have hitherto been most extensively worked. Pawton Mine is three miles from Wadebridge. The lode bears about 180° west of true north, and underlies east about 1 ft. in 1 ft. It occupies a distinct fissure in the hills, varies from 1 ft. to 30 ft. in width, averaging 6 ft. to 8 ft. There are smaller parallel veins on each side. The mine has been partially worked, only to a depth of 32 ft. below adit, or 44 fms from surface. The workings extend over a length of 150 fathoms. In the upper part of the mine the ore was entirely red hematite, except close to the surface, where some of it was brown. In the stopes now open beneath the 22 ft. level the ore consists of red hematite, with spathose carbonates. At all depths much of the ore has been of the botryoidal or kidney form, and it has generally been very free from silica. After describing the appearance of the "country," and the lode in detail, Mr. Collins said he thought there was evidence of the following stages:—1. Formation of the great series of initial fissures to which Pawton lode belongs. This was probably produced by one stage of the elevation of the Hensbarrow granite. 2. Deposition of ferruginous matter in the open fissure from the surrounding fissure—carbonate of iron, in all probability. 3. Consolidation of the same by heat, pressure, and other agencies. 4. Production of a transverse east and west fracture, and descent of the hanging wall, producing the heave of the lode. 5. Filling the transverse fissure with siliceous matter, probably by the ascension of hot siliceous water from the granite below. 6. Denudation producing the present surface contour. Alteration of ore near surface into brown and red hematite. 7. Exploitation of ore from part of the lode, refilling by infiltration from the country. This process is still going on.

"The Development of Mechanical Appliances for the Drainage of Mines," by STEPHEN HOLMAN. In this paper Mr. Holman gave a comparison between the prevailing system of drainage in Cornish mines by the large Cornish pumping-engines and the direct-acting steam-pump, taking the "Special" as the pioneer, and the representative of that class. After his introductory remarks, Mr. Holman said the matter resolved itself into a threefold question of cost, convenience, and durability of the working condition, whether permanent or temporary. He believed that the drainage of mines would inevitably devolve upon the simple, powerful, and effective "Special"

class. He gave in illustration a few examples of deep single-lift engines which had been placed in mines in most cases in pairs. A pair at Dunfield Colliery, 24 in. steam-cylinder, 7-in. pump cylinder, and 45 strokes per minute, raised each 10,000 gallons per hour in a single lift of 525 ft. A pair at Wigan, 30 in. steam-cylinder, with 10-in. pump, at 45 strokes, raised each 20,000 gallons per hour 500 ft. Two at Newcastle, 32-in. cylinder 7-in. pump, 72 strokes per minute, each raised 10,000 gallons per hour in a single lift of 1068 ft. There were approximate statements of duty at 100 ft. of piston speed per minute. At least 3000 of these pumps are now at work in various British and foreign mines. The system of direct-acting pumping-engines was even more important, however, as affecting the drainage of new mining undertakings. For this purpose the "Special" pump was peculiarly fitted by its compact and complete character. One very important feature was that the direct-acting steam-pump of this type could be put down in pairs, whilst Cornish engines could not, hence whenever a mishap occurred, causing the stoppage of the engine, the whole of the pumping ceased, which, of course, was not the case when the engines were in duplicate.

Mr. HOLMAN stated also that the experience of the pumps at the Newton and Meadows Collieries, where two large "Specials," with condensers, are at work, was most satisfactory. Mr. Scarborough, the manager, wrote that the whole 24 hours' supply of water was collected in a lodge, and pumped away at night, after the engines had done winding coal, in from 6 to 7 hours. The engine performed from 14 to 17 strokes per minute, and raised from 40,000 to 50,000 gallons per hour 450 ft. high. They had the patent condensers attached. Previous to putting down the pumps the practice was to wind the water from the two winding shafts, and in this way the 24 hours' make was cleared in about 11 to 12 hours. Various tests had been applied. It was proved that there was no perceptible difference in the quantity of water thrown with the condensers in action, or exhausting the atmosphere, but it was found that, on testing for economy, in one case a speed of 22 strokes per minute was produced, as against 16 with the same quantity of steam—an economy of 38.75 per cent.—and that when the engines were run at the highest working speed 12 strokes per minute were replaced by 18, an economy of 50 per cent. Further, Mr. Scarborough said that the use of the "Special" pumps aided ventilation materially, and that the saving of labour effected at the two winding shafts would pay for 33 per cent. of the coal consumed in pumping the whole of the water.

Mr. HUSBAND said the crucial test was the consumption of coal per horse-power. He had had some experience of these pumps, which in the first place came from America, and he found there that the consumption was excessive. They could work in Cornish engines at 2 lbs. to 2 1/2 lbs. per indicated horse-power, while the consumption of coal in the "Special" pumps was 10 lbs. This excess very much more than counterbalanced the difference in first cost, and he was afraid, therefore, that the adoption of the "Special" pump would not be economical.

Mr. DAVEY believed that such a pump as the "Special" required 12 lbs. per horse-power, but denied that the English superphosphate at the present day did the high duty claimed by Mr. Husbard. He advocated the compound pumping-engine as the cheapest form, and quoted statistics of his "differential."

"Surface Drainage of Mines," C. BUTLIN.—In this paper the author dealt with the important question of the surface drainage of mines, and the advantage to be derived from keeping the water falling upon the surfaces of mine sets from finding its way below, there to be pumped up. Mr. Butlin entered into details to show that this would effect a considerable saving of cost. Every gallon of water pumped implied so much coal burnt, or, in other words, so much cost. The plan advocated was that of draining the whole of the area on which the mines stand. The Camborne and Redruth mines occupied a basin about three miles long and two miles wide, which might be drained at 10s. an acre. What would that be in comparison with the amount spent on mine pumping engines?

"The Drainage of Cornish Mines,"—Messrs. LETCHER and HOCKING, of St. Day, had sent in to the Polytechnic a well written and practical paper, giving an account of the machinery employed in the drainage of Cornish mines. It is full of valuable information on the subject, and affords evidence of a large amount of knowledge on the part of the writers, and was, therefore, brought forward at the meeting of the Miners' Association.

LYTTLE'S METALLURGICAL PATENTS.

In our article upon this subject in last week's *Mining Journal* we drew attention only to the application of Mr. Lyttle's patents to the manufacture of iron and steel, but owing to the identity of general principle pursued by that patentee, there is not much difficulty to those who have read that statement in clearly comprehending his new method of producing almost all the other common metals by the same simple means. Those who are acquainted with the terribly complicated sixfold process now generally followed in smelting copper will no doubt be startled into unreasonable incredulity by the assertion, conveyed in our advertising columns under the above heading, that the new system of reducing ores will yield pure copper in one single operation. There is this important consideration to be borne in mind by all interested in the question—that Mr. Lyttle is no revolutionist introducing visionary dreams, but that he takes advantage, in a new and thoroughly practical form, of facts as solidly established as the rocks from which the copper comes. In short he simply brings high professional and practical skill to the useful task of welding into homogeneous shape the well-proven but hitherto useless or overlooked results of other men's labours. Nobody can presume to deny that powdered ore and powdered fuel intermixed will readily yield the required metal on the application of the proper heat, nor yet that this reduction is effected with the greatest possible facility when the heat is equally applied, as in a crucible, to the whole intermixed mass without the admission thereto of uncombined or free oxygen. Another point which cannot be disputed is that the carbonic oxide in the flame of a common iron blast-furnace not only totally excludes all free oxygen and co-operates with solid carbon as a deoxidizer of ore, but is also the most direct and economical method of imparting the required reducing or smelting heat.

When it is considered that Mr. Lyttle's processes for the production of malleable iron, cast-steel, and copper direct from the ore without fusion or smelting are based upon a new and feasible application of these indisputable facts, it will, we trust, be concluded that a most encouraging prospect is presented to the copper trade. In the new process the ores of copper are crushed and mixed by means of a small percentage of clay into lumps, with enough powdered fuel to effect the complete deoxidation of the ore. The crushing of calcined ore and incorporation into the required rough lumps is very much cheaper than can be estimated by anyone unacquainted with the brickmaking trade, and the reduction of these lumps in a vertical blast-furnace by means of the direct permeation of a carbonic oxide flame is the novel combination of the process, but involves nothing untried or doubtful.

Precisely the same method is pursued in dealing with ores of zinc, and the same furnace is used, but the zinc volatilises, and is condensed in a receiver at the furnace top, whilst the copper is withdrawn as an impalpably fine powder mixed with gangue from a vertical iron cylinder acting as a cooler at the bottom. In both these applications and in the steel process the same principle prevails, because, in all, the compounded lump may be regarded as a covered crucible charged with intermixed ore and carbon, and exposed to the direct impact of a reducing flame.

Mr. Lyttle's mode of getting rid of the gangue, which in most cases does not be subjected to fusion with the reduced metal, is also a patented novelty of singular simplicity, and that is by the use of the winnowing blast, which farmers employ for separating chaff from grain. By a judicious management of the force of this blast the copper present in the finely ground brittle product of the reducing furnace is separated from the lighter constituents of the mineral gangue, and when reduced iron is present with it the iron can easily be removed by one of those "magnetic separators" which serve in large works to remove all iron particles from brass filings.

In these processes, the full details of which would occupy too much space, Mr. Lyttle has opened up another new source of fuel of the highest importance to the owners of mining property in Cornwall and Ireland, by showing that the brittle dust of the charcoal of uncompresssed, unmanicured peat is the best as well as cheapest form of carbon for intermixing with the crushed ore in the compounded lumps. This charcoal requires for its preparation no plant but the spade, because the air-dried sods of peat are to be charred, without preparation of any kind, in clay-covered heaps on the bogs.

Dartmoor presents a vast wealth of fuel for this purpose close to the copper mines of Cornwall, and the rich mines of Ireland now stand in relation to the finest fuel in the best possible position for future success. Poor ores as well as rich are claimed by Mr. Lyttle to be equally within the compass of this process, because the gangue when finely ground is so easily swept away by the winnowing blast when properly managed. On the whole, we think that Mr. Lyttle's refusal to forestall success by accepting any premium or purchase for his patent, as stated in his advertisement, as well as his offer to start works for capitalists under his own supervision and responsibility, show a spirit which all who are interested in mining matters cannot too highly encourage and applaud.

It will not do to close this article without noticing one special advantage in the first cost, as well as maintenance of plant, under

the new process, and that is to be looked for in a new set of conditions not contemplated by Mr. I. Lowthian Bell when he stated at the last meeting of the Iron and Steel Institute that a furnace 45 feet high was "imperfect," and that full perfection in the utilisation of heat can only be had with about double that height of furnace shaft. This is perfectly true with the old process, in which the reduction is almost wholly effected by the agency of carbonic oxide gas, because, without a very high furnace, the full duty could not possibly be obtained out of that reducing agent. No such necessity exists under Mr. Lytle's system, and a furnace exceeding 36 to 40 ft. will be a waste of plant, because of the greater quickness with which the reactions are found to take place. In the zinc process, a 36-ft. furnace, 10 ft. in diameter, is prescribed as an advantageous size, so long as the escaping gases at the top are hot enough to prevent condensation of the volatilised metal. The compound must be charged into the zinc furnace hot from a brickkiln for the same reason. Mr. Lytle favours the same height for a copper furnace, but with the less diameter of 5 or 6 ft. Economy and speed in the action of the iron cooler is his motive for this, but hot reduced copper is not so liable to oxidation as iron.

In conclusion, we would state the patentee's confidence that 15 cwt. of fuel will suffice to make a ton of copper, and 10 cwt. a ton of zinc, with a very small fraction of the present cost for labour.

CWM GORSE COLLIERY COMPANY (LIMITED).

It is the intention of this company to work the famous "Red Vein" Anthracite seam, beneath a virgin area of 250 acres, in the Cwm Gorse Valley, Glamorganshire, held on a lease, of which about 56 years have yet to expire. The property lies about 20 miles from Swansea and Llanelly, and 1 mile from the Great Western Railway communicating with those ports. This coal is rapidly coming into favour upon the Continent, as well as in England, for steam, smelting, hop and corn drying, malting, and lime-burning purposes; and as the estimate of Mr. McCulloch, M.E. and C.E., of Aberdare, gives 1,600,000 tons of workable coal, it follows that with an output of 30,000 tons per annum the supply can be continued for the whole term of the lease. This quantity at the minimum profit of 1s. 6d. per ton would yield 15 per cent. upon the capital of the company, which consists of 15,000l., in 1500 shares of 10l. each. It is proposed to issue 900 shares to the public, the remainder being taken by the directors and their friends. About 7000l. only is required for development and working, and the construction of a tramway to the Great Western Railway, by means of which not only will the company's produce be conveyed, but a handsome revenue be earned from the use of it by collieries in the neighbourhood. There is no doubt that this is a property which in inflated times would have found favour with the public at a much larger figure, but it is desired so to deal with the whole thing that it may bear the strictest investigation.

Prospectuses and every information can be obtained of the secretary, at the offices, Nos. 181 and 182, Gresham House, Old Broad-street, E.C.

FOREIGN MINING AND METALLURGY.

There is no change to report in the French Iron Trade, and no improvement has occurred in prices. Pig has risen a little in the Luxembourg, where a rise of 2s. 6d. per ton has taken place in consequence of a rather unexpected speculative movement. Belgian and French industrialists hope to be relieved by this of an unfortunate competition, but hitherto the movement has not had this effect. At the extraordinarily low level to which pig has fallen in the Grand Duchy of Luxembourg any serious transaction would at once occasion a sharp change in quotations; this change would not, however, be of a durable character if it were not followed by a general improvement in the condition of metallurgical industry. The Hautmont Forges (MM. Michel Helson and Co.) sustained a loss of 32,000l. during the last financial year of the undertaking, and the shareholders have decided on an immediate stoppage of the works. The Philadelphia Exhibition is beginning to attract increasing attention in France. A meeting of merchants and industrialists is about to be held on the subject in Paris.

An official statistical report from the Silesian coal mines states that the first six months of the present year must be characterised as unfavourable. During the second quarter of the year prices experienced a further fall, especially for bituminous coal in Upper Silesia. This decline was attributable to competition, and to the counteraction of demand resulting from the blowing out of many high-blast furnaces. The prices of different qualities of small bituminous coal at the pit mouth fell from about 4d. to 3d., and from 3d. to 2d. per cwt. At the majority of the pits it was found necessary to work only four or five days per week, in order to avoid dismissing any of the colliers. The output for the second quarter in comparison with last year shows an average decrease of 6·2 per cent.

Chilian advices state that the Andacolla Mine, near Copiapo, produced in June and July the sum of \$300,000, the value of metals sent to Copiapo. The marcos that yet remained to be reduced will give \$160,000 more, making in all \$450,000, averaging about \$20,000 each bar.

It is stated that the Hungarian Minister of Finance has recommended to the Cabinet the sale, at as early a date as possible, of the State coal and iron mines and ironworks, and that preliminary steps have been taken for effecting a transfer. It is understood that Belgian capitalists have appeared as the prospective purchasers.

Orders have been, perhaps, a little better sustained in the Belgian iron trade, but prices still remain at a comparatively unremunerative level. This is a necessary consequence of the severe competition which prevails. Railway plant, passenger carriages, and goods trucks, as well as locomotives, are still in little demand, but carriages for tramways are affording a fair amount of employment to the various works which occupy themselves with their construction. At a competition for the supply of steel rails for the Belgian State railways, the John Cockerill Company offered to supply 7000 tons at 8l. 19s. 6d. per ton. This offer was sensibly lower than the proposals made by several other firms. Tenders were recently opened for the supply of 2000 tons of iron rails for a Dutch railway. The lowest tender was that of the Acoz Forges Company, which offered to supply the rails at 7l. 9s. 10d. per ton; this was the lowest tender delivered. The Monceau-sur-Sambre Company has just contracted for the supply of about 50,000 tons of rails for the Tirlemont and Diest and the Tongres and Antwerp Railways; the price is said to present some improvement upon the rates hitherto current. We learn also that MM. Blondiaux and Co., of Thy-le-Château, have concluded a contract for 10,000 tons of rails for a Russian railway. The imports of minerals and limailles into Belgium in the first eight months of this year presented an increase of 88,000 tons, as compared with the corresponding period of 1874, and 87,000 tons as compared with the corresponding period of 1873. The exports of minerals from Belgium increased in the first seven months of this year to the extent of about 38,000 tons, as compared with the corresponding period of 1874, but they decreased to the extent of about 57,000 tons, as compared with the corresponding period of 1873. The exports of iron of all kinds from Belgium in the first seven months of this year amounted to 128,261 tons, against 158,363 tons in the corresponding period of 1874, and 145,660 tons in the corresponding period of 1873. The exports of steel of various kinds from Belgium have increased this year; the principal deliveries have been made to Russia, Portugal, and Spain. A contract for steel and iron rails, fish-plates, &c., is about to be let for railways in the Palatinat.

Firmness, which has been noticed in the French coal trade, has become more decided during the last few days, and in some domestic qualities of coal a slight advance has even been established. The Pas-de-Calais has been laying in considerable supplies of coal for the beetroot sugar season, but coalowners must not entertain too much confidence on this account. In other French coal basins the aspect of affairs is less encouraging than in the Pas-de-Calais. In the neighbourhood of St. Etienne, for instance, where metallurgical industry has more influence than in some other localities, business in coal is almost at a standstill, and stocks of coal are increasing rather than otherwise. The Council-General of the Nord has expressed its approval of a report presented by M. Legrand on an alleged want of

energy on the part of the Northern of France Railway Company in conducting its traffic and extensions.

The Belgian coal trade has slightly improved, and there has been some little revival of confidence. There appears to be an impression that the fall has been carried to its lowest point, and under all the circumstances a less sombre future is anticipated. Coal is being disposed of regularly, and several of the colliery proprietors, in consequence of the steady demand prevailing, are prepared to increase their production. Consumers are acting with prudence in laying in now good supplies; they cannot hope to obtain more favourable conditions at a future time. It is expected that the next supplies of coal required for the Belgian State Railways will be laid in from the Liège basin. In the first seven months of this year 375,000 tons of coal were imported into Belgium, against 202,000 tons in the corresponding period of 1874, and 346,000 tons in the corresponding period of 1873. The imports of coke into Belgium into the first seven months of this year were 9213 tons, against 4720 tons in the corresponding period of 1874. The coal imported into Belgium is principally derived from the Zollverein and Great Britain. The exports of coal from Belgium in the first seven months of this year were 2,278,600 tons, against 2,108,200 tons in the corresponding period of 1874, and 2,497,600 tons in the corresponding period of 1873. Coke was also exported from Belgium to the extent of 412,000 tons in the first seven months of this year, as compared with 276,000 tons in the corresponding period of 1874, and 527,500 tons in the corresponding period of 1873. France has been the principal external consumer of Belgian coal this year, as in former periods. A strike which recently occurred at the Hazard Colliery, at Micheroux, has partially terminated.

PROFITS OF GOLD AND SILVER MINING.

The custom of condemning gold and silver mining as a business savouring more of lottery than of sound commercial wisdom is ably met by the *Mining Review* of Georgetown, Colorado, which remarks that while the mining fraternity can stand a large quantity of such statements they do a great deal towards retarding the growth of the western mineral fields, by deterring men of wealth from investing in mining securities, and by giving an unworthy notoriety to a branch of industry that more than any other needs the encouragement and assistance of the nation. It is explained that failure where it has occurred may be attributed to general ignorance of the nature of the business, to unusual and unwarranted results expected, or to the remarkable mismanagement and dishonesty with which it has been carried on. That the business public as a class are ignorant of vein or quartz mining to an extent that is hardly conceivable cannot be doubted. They do not know that gold or silver veins are a long fissure broken by subterranean forces through the crust of the earth approaching vertically in its dip, and filled with a hundred different ores, of which the precious metals seldom form more than one-fourth of 1 per cent.; that the veins, though continuous in depth, are filled for long distances with barren gangue, that the mines are generally found in rugged and difficultly accessible districts, away from the established lines of communication, and that it requires trained skill and true metallurgical ability to extract the metal from the crude ore.

Coal and iron mining are exceedingly safe investments, and may be compared to the ordinary grocery and dry goods trade; zinc, lead, and copper mining involves more chances, as do the manufacture of handsome carpets and furniture, of articles of fashion and ordinary luxuries of civilisation, and at the top of the list are gold and silver, none the less valuable and none the less demanded, than the costly requirements of the wealthy class. It is because investors forget the cardinal principles of their business lives when they go into precious metal mining that the results are so often disastrous. Too much, it is truly said, is usually expected of mines, and in a direct proportion to the anticipations have been the disappointments. There is no reason to think, even when carried on upon a legitimate scale, that mining is more profitable than other similar ventures. On the other hand, because to be successful, scientific and skilled labour is required, the business is one demanding more than ordinary care, and is at the same time exceedingly easy to fall in. The mines in the Western States of America have had almost innumerable difficulties to contend with, yet they have continued to progress, and the States themselves have grown wealthy under all their disasters. About \$600,000,000 have been subscribed towards mining and milling companies from the time of the discovery of gold in California up to the beginning of the present year. This figure represents the total capital stock and assessments of all companies of which record can be found. About 60 per cent. of this was paid in cash, and the balance remains as paper. Up to the date mentioned, bullion had been produced to the value of \$1,888,000,000, and the intrinsic value of mineral lands now working, counting the production as a profit of 10 per cent. per annum, \$750,000,000=\$2,438,000,000. On the other side of the account there is the actual capital invested, \$360,000,000; estimated value of surface improvements, \$200,000,000; and the labour pay of 10,000 men at \$4 per day for 25 years, \$300,000,000=\$860,000,000; leaving a profit during the 25 years of \$1,578,000,000, or a little more than \$60,000,000 per year, which upon an investment of \$360,000,000 represents a profit of about 16 per cent. per annum from the date of the discovery of gold in 1849 until the present time.

Referring to the American mines on the London market the same authority remarks, that it is a great mistake to suppose that at the present time English capital is very much averse to investment in American mining enterprises. About four months ago there was a very strong feeling in London against foreign mining shares of all kinds, caused principally by the losses in the Emma, Flagstaff, Snow-drift, Last Chance, Blue Tent, and others, and the dissatisfaction caused by several litigations of a similar nature to that now injuring the Terrible. But an examination of the English stock market shows a very strong and upward tendency in the estimation of American mines, and a better understanding by our British cousins of the causes that have hitherto operated so strongly against them. While we would find it rather a difficult job to defend some of the transactions through which foreigners have become possessed of our mines, we think that it will be found to be the case generally that Englishmen have been deceived more by their own countrymen than by the "cute Yankee," and that they have in many instances only themselves to blame for their losses. Over credulity in examining property to be bought, and the notion that the American mining and science is a failure, has led too many investors, first, to saddle their claim with too large a capital; and, second, to attempt to work it with a contemptuous disregard for the system under which we can work with success. Late developments on the Comstock, in the Richmond, Eureka, Eberhardt and Aurora, Pelican-Dives, Moose, Emma, Flagstaff, and various other mines throughout the West, prove beyond a doubt that the mineral country of the Sierra Madre and Sierra Nevada ranges of mountains is enormously rich in precious metals, and no class of investors have become more clearly convinced of this than the money-laden Englishmen. Their losses have been severe in the past without doubt, and in the future they will profit by their experience. It is to our interest to prove that they can make money here, and fair treatment on both sides will demonstrate that they can.

THE LATE BANK OF CALIFORNIA.

A FRENCH VIEW OF ITS FAILURE AND CONSEQUENCES—THE BANK OF NEVADA.

The *Journal des Débats*, in its issue of the 10th inst., considers the collapse of the Bank of California as being an event of "secondary importance, which was fully anticipated in Paris, and which cannot affect in any way the financial and commercial interests of the Pacific States." We extract from that paper the following remarks:—

"The Bank of California was simply a local establishment, which, in order to gain greater prestige abroad, was called by its founders the Bank of California, but which has never had any of the public characters which are attached to such institutions as the Bank of England and the Bank of France. The unfortunate Mr. Ralston, since his election as President of the Bank of California, in place of Mr. D. C. Mills, who wisely resigned that position about four years ago, dreamed of acquiring the supreme control of the financial as well as political interests of the States of California or Nevada by the conception and execution of most speculative enterprises. Several years of success had already crowned the exertions of that indefatigable man, who knew better than anyone how to corrupt the press, magistrates, police, and juries, in order to execute his designs—in fact, there was not a city, a town, a village, a mining camp which was not under the grasp of one of his agents. The *Journal des Débats*, as well as the English press, had on several occasions warned the French and English public against the dangerous character of the speculations in which the Bank of California was involved for several years past. Mr. Ralston was one of the directors of the fraudulent Arizona Diamond Company, which was denounced in time by the *London Times*, *Mining Journal*, and the *Journal des Débats*. That colossal mystification attached to his name an indelible stain.

He slipped away from this world leaving a personal deficit of 15 to 20 millions of francs. The liabilities of the bank are estimated at 50 to 70 millions of francs, and its assets at about 30 millions of francs. The greatest portion of the loss will be sustained by the American public. Neither the banks nor the public in England, notwithstanding their extensive and frequent relations with California, have suffered from any serious losses, thanks to the oft-repeated warnings from the lending organs of the press. The general opinion is that the interests of that State will be long benefited by the disappearance of the Bank of California, whose influence in all the enterprises got up on the Pacific Coast was a permanent cause of anxiety on the financial markets of England.

According to the American papers just received in Europe the control of the great mining interests of California and Nevada has now passed into the hands of the Bank of Nevada, founded a few months since by the rich owners of the mines Consolidated Virginia and California. It now remains for Messrs. Flood, O'Brien, Mackay, and Fair, whose well established honourability has been on several occasions verified by reports of the London and Pacific Coast Mining Bureau, to inaugurate a system of reform which will restore confidence in Europe, and induce foreign capital to seek investment in the serious and lucrative enterprises which abound in those States.

After all, California is rich enough to pay for the ephemeral glory of her late leader—Mr. Ralston. The unbounded resources of that country will, under honest management, render to it before long the prestige it has already gained of being the home of plenty of the American Union.

Since the above was written, news of a most encouraging character has been received in London by telegraph, stating that the best feelings prevail now in San Francisco, and that the financial crisis is over, thanks to the energetic and liberal measures adopted by the public spirited citizens and the banks of that city.

ENGLISH RAILWAY IRON ABROAD.

We regret that we cannot report any improvement in the position of affairs as regards the American demand for our railway iron. In our judgment this has been one great cause of the weakness of the iron trade during many weary months. The American railroad interest has not yet recovered from the great depression to which it has been reduced since September, 1873, and American metallurgy has, ever since the close of the great American civil war in April, 1865, been making a steady progress, so that the Americans are now practically independent of Great Britain in the matter of rails. Upon no other hypothesis can we account for the fact that our exports of rails to the United States sank in August to 152 tons, as compared with 5900 tons in August, 1874, and 6937 tons in August, 1873. These figures would be alarming enough if we had them merely to guide us, but we cannot also overlook the fact that in the eight months ending Aug. 31 this year we only sent the Americans 17,591 tons of our railway iron, while our exports in the same direction in the corresponding period of 1874 amounted to 78,531 tons, and in the corresponding period of 1873 to 141,330 tons. It is thus abundantly clear that it is no mere casual circumstance which has affected the American demand for our railway material, but that it is suffering from adverse influences of a permanent character. The only chance of our regaining anything like a valuable share of American orders for rails and accessories is a return of prices to a level at which American competition would fail to affect us, or at which we should be too strong for American competitors even upon American markets. But we confess that we fail to discern any symptoms of such a state of things as this. It is doubtful even now whether the British ironworker has been taught that to secure a ready market for the products of his skill and industry they must be turned out and rendered available for consumption upon comparatively cheap conditions.

It is, indeed, doubtful whether the British ironworker ever troubles his head much about the matter at all. Knowing nothing about political economy, and utterly indifferent whether the capitalist who employs him secures any return upon his enterprise, the great aim of the British ironworker appears to be to extract the largest possible amount of material enjoyment from the fleeting present. "Let us eat and drink for to-morrow we die"—this is unconsciously the creed of the British ironworker. But, then, matters cannot move on *ad infinitum* in this reckless fashion. Hence come strikes, and lock-outs, and closing of works. Mr. HALLIDAY and his immediate friends and satellites among the delegates may thrive in the *mine*, but the capitalist makes a wry face when he receives some dividend-less report, and the ironworker is rather staggered when he finds the establishment at which he has condescended to do a little labour closed *sine die*, or when, perhaps, he is informed that his employer has no further occasion for his services.

The position of the British iron trade would, indeed, be highly discouraging just now, and almost hopeless, but for the progress which is indicated in the colonial demand. Canada, for instance, took from us in the first eight months of the current year 78,246 tons of our railway iron, against 44,852 tons in the corresponding period of 1874, and 42,399 tons in the corresponding period of 1873. To Australia, again, we sent 54,274 tons of our railway iron to Aug. 31 this year, while in the same period of 1874 our exports in the same direction were 55,252 tons, and in the corresponding period of 1873 13,304 tons. Considering the present state of Canadian railway credit, our ironmasters will clearly do well to conduct their operations with Canada upon a basis of considerable caution; but as almost all the Australian railways are being carried out by the various Australian Governments no financial difficulties are likely to present themselves with respect to them. Australian iron will, no doubt, be produced some day, but at present this production is one of the eventualities of a rather remote future.

MINING NOTABILIA

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

CHAPEL HOUSE.—The sinking of the pits and the erection of the new machinery are proceeding most satisfactorily, the former having reached a depth of about 172 yards, and the latter fast approaching completion. When all the new works are finished the output, which is at present about 6500 to 7000 tons per month, can be increased to 1000 tons per day; and as the company, even in the depressed state of the coal trade, not only sells all its coal, but has great difficulty in supplying its customers' requirements, there is no doubt that its business will be enormously benefited by a larger raising of coal. The works now being pushed on with all possible speed are of a very massive description, and will enable the company to raise coal at a very low cost; and the future prospects of the company may, therefore, be considered most favourable. There is a good demand on the market for these shares, which are quoted at 3l. 15s. 6d. per share.

GWENAP (Copper).—The improved price for copper, and the rapid development of West Poldice, adjoining St. Day, as a rich copper mine, which sold at the last copper sale at Redruth 62 tons for 550l., or 9l. per ton. This is in addition to about 200l. worth of tin monthly. The 30 fm. level is being driven at 4s. in l., and a great course of ore laid open of rich quality. The shares in a few weeks have advanced from 20s. to 15l., and but a small number can be obtained at this price. This rich lode is supposed, by many acquainted with the district, to be the north lode in St. Aubyn United Mines from the great resemblance in the character of the ore in richness and appearance. The different points in St. Aubyn never looked so well for a great mine as at this time. The adjoining mine (Cathedral) is opening up a rich course of ore, and is expected to enter the divided list at no distant date. In West Cathedral but little has as yet been done. The inhabitants of the district of St. Day are predicting a great future for these Gwenap Mines, and a large profit to the adventurers.

OLD TINCROFT.—This mine is making rapid progress, and the prospects are of a high order. The extensive run of tin ground and the present state of matters point to a capital future.

NEW CAROLINE.—This sett contains several lodes, one of them from 5 to 6 ft. in width in places; the new lode opened upon for 240 yards in length, and is not less than from 8 to 12 ft. in width. This latter lode contains goseum for the whole distance. Six shafts have been sunk, the deepest 30 yards from surface; lode improving in appearance as depth is attained, and increasing in size. Two large cross courses intersect these lodes about 200 fms. apart, and a counter lode as well as two east and west lodes; the copper-bearing lodes in this district run south of east and north of west. Everything promises for a great success, as the sett is in the centre of mines formerly very rich for copper ores. One of the lodes returned upwards of six millions sterling! Dues, 1s. each.

WEST WHEEL GORLAND.—In the report of the general meeting, which appeared in the *Journal* of Sept. 4, it should have been stated that a committee of management was appointed, consisting of four large shareholders.

REVOLVING PUDDLING FURNACES.—The specification of Mr. T. E. CRAMPTON, of Victoria-street, Westminster, describes making the wearing rings which form a joint between the revolving and non-revolving parts of the furnace of numerous short segments, so that they shall not be injuriously distorted by contraction and expansion. In some cases each of the small segments may have a portion of it exposed to the water in the water casings. The specification also describes carrying off the air and water from the upper part of the water casing of revolving furnaces through pipes, which are led from points near to and at distances around its circumference to a central cock, which closes the passage through them except when their outer ends are above the top of the inner casing, so that the inner casing shall always be covered with water, a continuous supply of water being admitted to the water casing by a pipe passing centrally through the cock. The specification also describes means of renewing continuously the lining of revolving furnaces in which powdered fuel is burnt, and which are employed for heating steam boiler furnaces and other apparatus, and also means of maintaining a constant supply of powdered fuel in the feeding chambers from which the fuel is supplied by feeding apparatus in revolving furnaces.

METALLURGICAL FURNACES.—The invention of Mr. A. PARKES, of Erdington, consists essentially of a chamber or generator in which gaseous fuel consisting mainly of carbonic oxide is generated, the gaseous fuel being conducted over a hollow bridge or hot air flue into a reverberatory chamber in which copper is melted, or the puddling of iron or other like metallurgical operation is carried on. The hot air from this bridge or flue mixing with the gaseous fuel effects its combustion and produces an intense heat in the reverberatory chamber. The air supplied to the hollow bridge or hot air flue is heated by passing through the walls of the generator which are reticulated or honeycombed. The waste gas from the reverberatory chamber may be utilised by being passed by being passed to a second or cementing chamber, and from thence to a boiler for the generation of steam. The gas generator and hot air bridge may be applied to steam-boiler and other furnaces unconnected with metallurgical furnaces.

STEAM BOILERS.—The invention of Messrs. GALLOWAY and HOLZ, of Manchester, relates to the internal flues of Cornish boilers having water tubes therein. According to one improvement the flue is made with the top part concave and the bottom part convex in transverse section, the curvatures of each top and bottom parts being by preference struck from a common centre; and in the flue are fixed water tubes radiating from the aforesaid centre. Or the top of the bottom is made curved, the other part being flat; and the tubes are made to radiate from the centre of the curved part. According to another improvement the flue is formed with nearly two circular parts in transverse section running into each other in the middle, where the top and bottom of the flue are formed convex; and such convex parts are connected by vertical water tubes, while in the circular parts water tubes are fixed in diagonal positions.

A petition to wind-up the Dorset Fire Brick and Blue Clay Company (Limited) has been presented to the Court of Chancery.

FOREIGN MINES.

ST. JOHN DEL REY MINING COMPANY (Limited).—Advices received Aug. 27, 1875, ex Gironde (s.), dated Morro Velho, July 23:—
GOLD EXTRACTED TO DATE.—The produce extracted during the second division of July, a period of 11 days, amounts to 19,605.2 oits. It has been derived as follows:—
From mineral stamped 17,953.5 from 1863 = 9,666
Re-treatment 1,651.7 " = 886
Total 19,605.2 " 1863 = 10,552
Oits. Oza. Troy. Oits. Oza. Troy per ton.
Or 19,605.2 = 2260.1606 = 10,522 = 1,2131

Advices received Sept. 16, ex Douro (s.):—
Morro Velho, Aug. 17.—MINE DEPARTMENT: A new stop was taken up in the western part of the mine early in the month, and a supply of mineral sufficient for the daily supply of all our stamps has since been obtained.

REDUCTION DEPARTMENT.—Very good duty continues to be done in this department. An increased supply of mineral from the mine has enabled us to keep all stamps fully employed. There is now, however, no stock of stone either on the spalling floors or in the passes; but it is now convenient, and certainly highly necessary, to stop some of the stamps for repairs, I am in hopes that while this is being done a small stock may be accumulated.

LYON STAMPS.—The western side of these stamps was completed and set to work on the afternoon of Aug. 4, since when it has continued to perform good duty.

PRODUCE FOR THE FIRST DIVISION OF JULY.—The gold extracted during July amounts to 52,820 oits., and has been derived as follows:—

	Oits.	Tons.	Oits. per ton.
From mineral stamped	48,609.4	from 4999	= 9,723
Re-treatment	4,210.9	"	= 842
Total	52,820.3	"	4999 = 10,565

Equal to 6089.8214 oza., or 1,216.7 oza. per ton.

COST AND PROFIT FOR JULY.

The produce being 52,820.3 oits.
Less loss melting 375.4
Total 52,444.9 at 7s. 9d. per oit. = £20,322 8 0

Cost, less sums receivable in reduction of the same 6,964 16 9

Profit for month of July £13,357 11 3

By the foregoing statement an increase will be noted in the cost for July of nearly 10 per cent. over that of the previous month. This increase consists principally in an extra quantity of timber and other materials being used, and in a heavier expenditure for native labour.

The extra amount of work accomplished has, however, resulted in an increased return of produce, and I hope that the net result shown of the month's working may be considered very satisfactory.

GOLD EXTRACTED TO DATE.—The produce extracted during the first division of August, a period of nine days, amounts to 15,508.1 oits. It has been derived as follows:—

	Oits.	Tons.	Oits. per ton.
From mineral stamped	14,130.0	from 1422	= 9,936
Re-treatment	1,378.1	"	= 969
Total	15,508.1	"	1422 = 10,905

Equal to 1787.8316 oza., or 1,257.2 oza. per ton.

A larger quantity and a richer quality of mineral having been treated during this division of the month enables me to return you a better result than that of the preceding one.

THE HEALTH OF THE ESTABLISHMENT has very much improved during the past few days. The admissions for treatment of bronchial and other pulmonary complaints are rapidly becoming fewer, and if the present milder temperature continues we may hope soon to return to our normal state of health.

The GOLD TROVE was dispatched on Aug. 14, with 22 boxes, containing 64 bars, weighing in all 101,537 oits., equal to 11,705.50 oza.

N.B.—The gold has arrived in the Douro (s.).

The following telegrams have been received:—On Aug. 21—"Produce first division (nine days) of August, 15,508 oits.; yield, 10.9 oits. per ton. On Aug. 24—"Profit for month of July, 13,357 oits. On Sept. 6—"Produce second division (11 days) of August, 15,508 oits.; yield, 10.2 oits. per ton. On Sept. 11—"Produce for the month of August, 52,600 oits.; yield, 10.3 oits. per ton."

DON PEDRO NORTH DEL REY.—Report for July: Produce and Cost: Produce (531 oza. Troy), 1957.19s. 6d.; cost, 2729.4s.; loss, 771.4s. 6d.—First Division of August: Produce weighed 1313 oits.; remittance (one month), 4760 oits. bar gold.—Telegram: The following telegram from Rio, Sept. 14, referring to a later date than the above advices, was received on the 15th inst.:—"Produce for the month (August), 4150 oits. Encouraging auriferous lode."

JAVALI.—Under date Aug. 5 the manager writes (in confirmation of telegram already published) that during the month there had been crushed 1540 tons of quartz, yielding 605.2 oza. of gold, at an average of 7 dwts. 21 grs. The expenditure was £287.10s. 3d. The remittance is valued at £1844, thus showing a profit of 905s. 9d. 9d.; and he says—"The result would have been still better if we had not incurred a stoppage by the breakage of the new turbine-wheel."

BIRDSEY CREEK.—Telegram from the superintendent, Mr. G. S. Powers:—"We have cleaned up after a run of 46 days. The gross returns are \$17,750; the profit is \$8000."

BERHARDT AND AURORA.—Telegram from Captain Drake states that the August run would be continued till the 15th inst., and that he will cable the result of the same on the 20th. All running well.

BIO TINTO.—Telegram from Huella states that the tunnel heading struck the ore on Thursday morning.

ALMADA AND TRITO.—Telegram from Mr. Breach:—"Profit for July, \$8185. INDEPENDENCE (Gold).—Aug. 21. The superintendent reports that the work of preparing the stopes east and west was being pushed forward in readiness to supply the additional stamps, and says—"The mill is progressively finely. The battery framing is all done, and all the castings delivered except a few of the mortar. Pulleys are now being constructed, and chutes for the conveyance of ore to the batteries."

RICHMOND CONSOLIDATED.—R. Rickard, Aug. 24: I informed you by cable yesterday that we had holed the 600 ft. drift, we have now good air in that level, and are now preparing to sink below that level if all be well; we shall soon get down a winze to prove another 100 ft. in depth. The 700 ft. is about 50 ft. from the shaft; the ground has been very favourable for driving, but now it is harder, having found the soft ground and into the limestone again. The ground gone through in the 700 ft. and now in the shaft, is very peculiar, nothing yet like the one found on Ruby Hill. When we got through the limestone we struck a vein about 2 ft. thick of stained (red) limestone, then we sunk through about 14 ft. of flocon, and finally at the bottom of the shaft we have a silicious limestone highly charged with pyrites. I enclose a hand sketch of the bottom of the mine, so that you can get a clearer idea of the formation. I think that this change of ground will be of importance, it appears to dip with the regular stratification of the country. I want you to clearly understand that this change of ground does not at all bear on the old ore body, it is quite underneath the limestone and piling in the same direction; if it turns out anything good it will be quite independent of anything else ever seen on Ruby Hill. In stripping the north-west end of the stope in the back of the 500 ft. we found that the ore body lengthened, and consequently gives us more ore than we expected, but as far as seen it will not nearly compensate for the pinching of the lode elsewhere in that stope. We have started a stope, as I told you, in the bottom of the 500, it is turning out very fair ore; now that the 600 is holed we shall begin a stope in the back of that level. The shaft is being timbered, and shall resume sinking in about three days, we shall then prove what we have in the bottom of the shaft. We shall at the same time drive a level from the 700 to intersect the pyrites-bearing strata; the proposed levels are indicated by red ink lines on the enclosed sketch. On the west side of the hill we are stopping, and as we clear the ore shall thoroughly examine the bottom to ascertain where to sink again. All other points of the mine are looking just as usual. The three blast-furnaces were in blast nearly all the week, the No. 1 was let out for repairs, and was lit up on Monday evening; it took until Tuesday morning to get it in full work. The No. 3 was shut down this morning for repairs, also shall get it done as soon as possible. The little furnace is working with brick sides, it is working on regularly, but does not equal to more than half the big ones, the quantity of fuel consumed is in about the same proportion, and also the labour. The refinery has been going more regular this week. At the beginning we had to stop a day to cleanse the boiler, it was so badly corroded that we could not get steam enough to work; now it is going on all right again. The flue (brick) is nearly finished, and shall be able to put the stack on and join it to the old flue on Sunday, when I hope that we shall have an improvement in the draught. The grading for the new hoisting machinery will be nearly finished this week, when we shall put the mason to work to build the loading of the engine. By the time the engine is ready we shall have all the building ready to receive it, according to agreement the machinery will be ready by Oct. 13, and be here by the end of the month. I should think that by the end of November it would be ready to work. With the present gear we can sink another 100 ft., and shall attempt deeper if we can manage it by hoisting lighter buckets. When we get the new engine we shall then be able to sink the mine, and keep going the hoisting of the ore with ease. The stock taking on the 31st. shall have my full attention.

RICHMOND.—Telegram from the mine at Eureka, Nevada: Hall, London—Week's run, \$33,000. Crank of engine broken; boilers repairing. Sunk below the 600, 6 ft. in ore.—RICKARD.

SERRA BUTTES.—The receipts in August were \$29,678, and the total California expenses, including cost of mining and milling, \$21,472. At Plumas Eureka the total receipts were \$32,434, and the total California expenses, including cost of mining and milling, \$18,631. In addition to the foregoing yield from the mill, 61 tons of sulphurets have been saved.

GRONDALES.—Mr. Smeddie, August 5: During the past month we have crushed 2067 tons of ore, from which we have obtained 548 oza. of gold, being an average of 3 1/2 dwts. per ton. We value the gold at 91s.; the total cost for the month was £461, leaving a profit of 1877. The above cost includes the sum of 1000 charged to construction account.—San Benito Mine: The lode in the end looks well, and is about 8 ft. wide. As we are now fairly under the old cross-cut I look for an improvement every day. The value at present is about 4 1/2 dwts. per ton.—San Sebastian Mine: The prospects on the north lode being poor, I have discontinued driving eastward on this lode, and we are now rising on the south lode, which I hope to put to surface during the present month. The yield from this mine has been about 3 dwts. per ton.—San Domingo: During the past month the work has been almost entirely confined to the western stope, and the yield has been 3 dwts. per ton.—San Antonio Mine: We are now stopping ground near the surface, over the back of the old stope.—Trinidad End: There is no permanency in this part. At the same time we are opening up the ground eastward, and I believe this mine will in course of time be of considerable importance. The yield has been 3 1/2 dwts. per ton.—Estrella Mine: The bottom level has been repaired up to the slide, and we are now repairing the cross-cut; the ground is exceedingly heavy in this mine, but I think we shall have no further trouble. The yield has been 3 1/2 dwts. per ton. From the hard quartz accumulated during the dry season we have reduced 220 tons, worth about 4 dwts. per ton.—Machinery: Since the 21st ult. we have been driving 36 heads, having a plentiful supply of water. The weather has been such lately that we have been unable to do anything at Estrella race. I expect to commence the hoisting over the stamps as well as repairs to the water-wheel during the present month. The pit is completed, and the race will be pushed on as rapidly as possible.

LU ITANIAN.—Sept. 7: Palhal: The cross-cut in the 110, south of Basto's lode, 944 east of River shaft, is still in hard dry ground.—Levels, 80, on Basto's lode:

The 180 and 170 are at present under water. In the rise above the 50, against River shaft, the lode is composed of schist and hard quartz. In the 160, west of Taylor's, the lode is worth 1 1/2 ton of ore per fathom. In the 150, east of Taylor's, the lode is 1 1/2 ft. wide, composed of quartz. The lode in the 150, west of Taylor's, and west of the slide lode, has stones of ore in it. The lode in the 90, east of River shaft, is in two branches, each composed of schist and hard quartz. In the 70 east the lode is 1 1/2 ft. wide, composed of quartz, spotted with lead ore. In the 28 east the lode is 1 1/2 ft. wide, composed of quartz and spots of lead, and fragments of asbestos. In the 50, west of Taylor's and of the slide lode, the lode is very small and poor. At Carvalhal, in the 60 cross-cut, south of incline shaft, the ground in the end is a little more favourable for driving through than it has been, but equally dry.

BENSBURG.—C. Craze, Sept. 13: Victoria Shaft: Owing to the breakage of the windrope the summen have not been able to sink much in the past week. They have, however, put in timber and secured the shaft, so that now the windrope having been replaced by a new one we can resume sinking without interruption. There is no change in the lode here, still worth a 1 1/2 ton of ore per fathom. In the 14 and west the lode presents a better appearance, with very good stones of ore in the bottom of the level. I have no doubt we shall have a valuable lode again in driving a little further west. The stope in the back of this level is worth 2 tons of ore per fathom. We have to-day engaged six men to drive the 14, east of this shaft. This end we shall push on with all dispatch to get back under the good ore ground seen in the new shaft and in the level to the west of same. The stope of carbonate in the west end of the open-east is looking a little better, and I think will produce a little more than it did in the last. The machinery throughout the mine is working well.

MENZBERG.—R. K. Roskilly, Sept. 15: Dickinson's Engine Shaft: The ground in the 45 cross-cut, which is 41 fms. west of shaft, is composed of a fine mineralised killas, mixed with grauwacke. The meeting of this rock is a most favourable feature, and at and above it in the adjoining mine the lode has been found rich in copper; therefore, looking at the character of the strata now in the end, which has a very promising appearance, we may reasonably expect similar results on the intersection of St. Joseph's lode in this mine. The lode in the 45, driving south or cross-cut, continues just the same as reported on last week.

FORTUNA.—Sept. 8: Canada Incoast: The 110, west of Judd's shaft, has improved, and the lode is now large, and yields 1 1/2 ton per fathom. The 30, east of San Carlos shaft, is in contact with a large cross-course. The lode in the 60, west of San Pedro, is small, hard, and of no value. In the 60, east of San Frederico, the lode has much improved, and will produce 1 ton per fathom. The lodes in the 50 and 40, east of this shaft, do not contain ore enough to value. In the 90, east of Addis's shaft, there is a powerful and promising lode, yielding 1 ton per fathom. The lode in the 60, west of Kennedy's, has fallen off in value during the past week. In the 100, west of this shaft, the lode is open and promising, yielding 3/4 ton per fathom. The 90, east of Lowndes's shaft, is still in the cross-course. The 30, east of Carro's shaft, is in a small lode, and very hard for driving. The lode at Abercrombie's shaft, below the 25, is not so large as it was, but yields 3/4 ton per fathom. Carro's shaft, will be down to the 90 in a few days. The lode in Saturnino's winze, below the 40, is getting smaller, and produces 1 ton per fathom. Bartolome's winze, below the 70, is going down in a very fine lode, worth 2 1/2 tons per fathom.

Los Salidos: The 120, west of Buenos Amigos shaft, is in an open and easy lode. The lode in the 10, west of this shaft, is small and regular, producing 3/4 ton per fathom. The 120, east of Morris's shaft, is in a very thin lode, and produces 1/2 ton per fathom. The 110, east of this shaft, is in a very thin lode, and produces 1/2 ton per fathom. The lode in the 110, east of San Pablo shaft, is strong and regular, producing 3 tons per fathom. The ground in the 100, east of San Miguel's, is hard, and the lode small and poor. The 35, west of Swaffield's shaft, although not so productive as it was, still yields 2 tons per fathom. The lode in the 45, west of Palgrave's shaft, is strong and promising, and produces 2 1/2 tons per fathom. The lodes in the 55, east and west of this shaft, have both improved to 2 tons per fathom. The men in Morris's engine-shaft, below the 120, are getting on very well, and the lode yields 3/4 ton per fathom. Good progress is being made in Palgrave's engine-shaft, below the 55, and the lode is worth 1 ton per fathom. Buenos Amigos shaft, below the 120, is in hard ground for sinking. The lode in Marquie's winze, below the 45, is small, and of little value. In Diego's winze, below the 110, the lode has failed in the past few days. In Enrique's winze, below the 110, the lode is small and well defined, producing 1 ton per fathom. In Castro's winze, below the 45, the lode is small, and of little value at present. The weekly returns were well maintained throughout the past month, and the stopes are now yielding the usual average quantity of ore. The machinery department is working well, and the other surface works are going on very regularly. We estimate the raisings for September at 350 tons.

LINEARES.—Sept. 8: Pozo Ancho: The 100 ft. level, driving east of Warne's shaft, is in a large lode, with good stones of ore. The same level west is also in a large open lode, and easy for driving. The lode in the 85, west of Crosby's, on south lode, is small and poor, and the ground hard. The 75, west of Peill's engine-shaft, is in a small, compact, and regular lode, worth 1 ton per fathom. The 65 and 55, west of this shaft, are both in promising lodes, yielding 1 1/2 ton per fathom. The lode in the 90, west of San Francisco shaft, is small and unproductive. The 75, east of this shaft, is opening paying ground, worth 1 ton per fathom. A good length of valuable lode has been opened in the 65, east of San Francisco; it is now worth 1 1/2 ton per fathom. The men in Peill's engine-shaft, below the 75, are working well. No. 200 winze is holed to the 100; the lode is worth 1 ton per fathom. No. 202 winze, below the 45, is in a compact and regular lode, producing 1 1/2 ton per fathom. No. 203, new winze, east of Warne's engine-shaft, at the 85, and in advance of the 100, yields 3/4 ton per fathom. No. 204, also a new winze, west of Peill's engine-shaft, at the 55, is in a lode worth 1 1/2 ton per fathom. The usual quantity of ore was raised in the past month, and the stopes have not undergone any change worthy of notice. The surface works are going on very satisfactorily, and the machinery is in good condition. We estimate the raising for September at 200 tons.

Quinteros Mine: The 80 ft. level, west of Taylor's engine-shaft, is in a large lode of promising appearance, and producing 1 1/2 ton per fathom. The lode in the 65, west of Cox's shaft, is small, and of no value. There is no change in the 45 cross-cut south of Cox's shaft. The 80 east of Taylor's, and the 65, east of Addis's shaft, are both in promising lodes, yielding 1 1/2 ton per fathom. The 100, east of Addis's shaft, is in a large open lode, yielding 1 ton of ore per fathom. The 55, 65, and 80, west of San Carlos shaft, are in unproductive lodes. In the 80, east of San Carlos shaft, the lode is strong, regular, and well defined, with stones of ore. The 65, east of this shaft, is in a large open lode, but contains no ore to value. The 55 and 45, east of Judd's shaft, are both in small unproductive lodes. Nothing has been met with in the 32 cross-cut, north of Judd's. In Taylor's engine-shaft sinking, below the 80 ft. level, the men are getting on slowly. In Carro's winze, below the 65, the lode is disarranged and unproductive. Carro's winze will be holed to the 80 ft. level in a few days. Below the 100, east of this shaft, is opening paying ground, worth 1 ton per fathom. Below the 100, east of this shaft, is opening paying ground, worth 1 ton per fathom. The lode in Cruz' winze, below the 65 ft. level, is very wide, with stones of ore. Marro's winze, below the 65, is going down in a rich sort of ore, worth 4 tons per fathom. We estimate the raisings for September at 150 tons.

LANESTOSA.—Sept. 7: In Judd's shaft, sinking below the 100 metre level, there is no ore in the part of the lode carried. The 100 metre level, north of Judd's, is on the eastern side of the lode, which shows short jointy calcite, with occasional pockets of earthy matter. The 100 metre level, south of Judd's, is in a large cavern extending above and below the level; it has been examined to 12 fms. deep, and a fissure continues at bottom, with a strong current of air passing through it. The lode in ends of cavern appear large, but being thickly incrustated with stalactite matter, its character cannot be seen at present. On cross-cutting the lode at the 100 north it is seen to be 2 fms. wide, chiefly calcite rock, without ore. The 80 north has been holed by cross-cutting the lode to No. 1 winze from the 60; the lode is over 3 fms. wide, but of no value. The lode in the 60 south continues large, with small bones of lead, but not enough to value. No. 2 winze, below the 60 north, is coming down on the cavernous ground met with in the 80; the lode yields 3/4 ton lead per fathom. No. 2 stope, in back of the 60 south, is resumed, and the lode improved in size and value, yielding 1 1/2 ton lead and 1 1/2 tons calamine per fathom. No. 4 stope, in back of the 60 south, is also resumed; the lode yields 3/4 ton per fathom. In Santo Tomas winze, below add, the ground is hard, with only a division in rock to stop position of lode. It is expected to commence driving next week. The sampling for the past month is 20 tons lead, 18 tons calamine, and 18 tons silver. The lode is expected to last 15 tons lead of ore, 90 tons calamine, and 90 tons silver. The lode is expected to last 15 tons lead of ore, 90 tons calamine, and 90 tons silver.

ALMILLOS.—Sept. 8: In the 30 west of San Francisco's shaft there is a strong and regular lode with good stones of ore. In the 50 west of this shaft the slide occupies the greater part of the end; the lode under it was good. The 50 east of Magdalena's cross-cut is also in contact with the slide. The lode in the 85 east of Taylor's engine-shaft is much improved, and now yields 1 ton per fathom. In the 85 west of San Andriano's shaft the lode is disarranged and unproductive. The 60 east of San Victor's is in a very strong lode, yielding 1 ton per fathom. The lode in the 100, east of San Carlos shaft, is in a small and poor lode. The 30, east of air-shaft, has greatly improved, and the lode is worth 1 1/2 ton per fathom. In the 40 east of air-shaft there is no lode in the end at present. The 50 east of Crosby's shaft is without ore at present. The lode in the 50 east of Judd's engine-shaft has declined in value lately, and now yields 1/2 ton per fathom. The 60 east of Judd's is still in the cross-course. The men are working well in the 70 cross-cut north of Judd's; it will take some months to reach the lode. The lode in the 30 west of Swaffield's shaft is improving a little, and now yields 3/4 ton per fathom. In Taylor's engine-shaft, below the 80 ft. level, the men have put to drive east on one lode, and to cross-cut south towards another. Moderate progress is being made in San Enrique's shaft below the 70 ft. level. San Felipe shaft is off the lode, and in hard ground. Moreno's winze below the 35 is suspended for the present. Baquera's winze is down to the 70 ft. level, and the men are driving east; lode of a kindly appearance, and yielding 2 tons per fathom. Tomas winze, below the 25, is in a small poor lode. The lode in Martinez' winze, below the 30, has improved a little, and yields 3/4 ton per fathom. Lulz's winze, below the 25, shows a little ore in the level. The lode in Judd's winze, below the 25, is of no value. In Cox's shaft, below the 60, the ground is moderately easy for sinking. The tribute department yielded moderately well in the past month, and the stopes are without any change of importance. The surface works are being carried on very regularly, and the machinery is in prime condition. We estimate the raisings for Sept. at 200 tons.

SOUTH AUSTRALIA—MONTHLY SUMMARY.

THE KURILLA.—At this mine, held by English shareholders, great activity prevails, and the operations are extended from east to west over a considerable length of ground. In the western portion of the section of a large and substantial engine shaft is almost complete to the 25 ft. level. This shaft is 12 feet long, and 6 feet wide in the clear. The framework is in hard wood 9 in. square, supported on distance-studdies in the usual way, and lathed with male poles; 9 feet of the shaft is to be devoted to pumping-gear and ladder way, while the remaining 3 ft. is screened off for a hauling shaft. We noticed that a new mode for fixing the dividing beams is adopted. The usual way is to cut out a portion of the wall plate, and insert the divider into the groove. Here, however, an iron plate or bracket is screwed to the wall-plate, and the divider is simply dropped into the groove, from which it may be easily removed at pleasure. The great advantage gained by this contrivance is the extra strength imparted to the wall-plate, as well as even pressure of the dividers, thereby keeping the frame from winding out of truth. When there is great pressure from the surrounding strata this must be an important stay. It is intended to erect a powerful engine on this shaft to drain the whole of the company's property. Half of the old engine shaft is 45 fms. deep. At present the water is pumped from the 25, but preparations are being made to drain it to the bottom. The 15 and 25 are extended eastward towards the Devon Consols Mine; and from 90 to 100 fms. in each drive good paying ground is being opened up, and considerable quantities of ore are being raised by the stopes in the back of the 15, while good reserves of ore are being left at the 25, which will be soon ripe for stopping.

Although it is only just six months since operations were resumed under the newly constituted company, 100 tons of ore have been sold and a much larger quantity is now being got ready for the market. Nearly the whole of this ore is from discoveries made during the present working. In addition to the works mentioned, which are confined to the old Kurilla lode, a new lode has been discovered north of the old lode, from which about 80 tons of ore have been raised, although no means are yet used to extend the works below the water level, the ore, therefore, has been raised about the 10. No doubt means will shortly be devised to drain this portion of the property, which has at least doubled the value of the mine. We noticed that a new horse whelm is erected on the eastern part of the mine is intended to draw the stuff from the new as well as the old lode.—Wallaroo Times, July 10.

DEVON CONSOLS.—Capt. Northey reported on July 10:—Hosking's Shaft, 35 level. We have been taking down the lode, and have got the hanging wall. The lode is 5 ft. wide of spar and ore. The end will yield 10 tons of 16 per cent. ore per fathom. The stope west of the winze is not so solid as it is east. The lode here is 8 ft. wide, with ore throughout, but mixed up more with spar and killas; it will yield 7 or 8 tons per fathom of the same percentage.

MOONTA MINE.—The directors have declared their 40th dividend, the amount this time being 10s. per share, payable on and after July 8.

LADY ALICE.—The manager reported on the 30th ult. that during the fortnight 205 tons of stone and mullock has been crushed, yielding 89 oza. of smelted gold. He had also sent away 3 tons of copperore, and had upwards of 7 tons dressed ready for market. The stopes at the back of the 100-ft. level are still looking well, the winze is rich for gold and copper, and the lode improving in going down. The directors of the Lady Alice Company visited the mine on Thursday last. They found everything working satisfactorily, and a decided improvement both in the winze and the levels as same are being opened up and the mine developed. There are about 24 tons of high percentage ore at the Port and on the mine ready bagged for sale.—South Australian Register, July 16.

There is every prospect of a Bill for the abolition of customs duties in the Northern Territory being carried in the Assembly. The declaration of Port Darwin as a free port is spoken of as the only means of rendering the place prosperous. News from the Territory mentions that residents think a railway should be constructed 150 miles south of Port Darwin, forming a link in the Overland Railway that it is thought will eventually be made. The House has authorised the Government to communicate with the Queensland Government with a view to inducing Asiatics to settle in the Territory; but a message from Palmerston says that the introduction of coolie labour will be useless until sugar plantations are established. The Claud Hamilton has reached Palmerston with 34 passengers, and has since sailed for Adelaide with 60 passengers and 2741 oza. of gold for the English, Scotch, and Australian Chartered Bank, besides an unknown amount in private hands. The population of the Territory prior to the departure of the vessel named was 330 European males, 60 females, and 80 children, also 170 coolies. The Government Resident has gone on a trip to the Adelaide River.

An attempt is being made to form a New Guinea expedition to establish a trading factory at Morsey Harbour. Several merchants support the scheme.—South Australian Advertiser, July 15.

AUSTRALIAN MINES.

PORT PHILLIP AND COLONIAL.—July 10: Quantity of quartz crushed for the four weeks ending June 16, 3420 tons; pyrites treated, 18 tons; total gold obtained, 953 oza. 16 dwts., or an average per ton of 3 dwts. 21 grs. Receipts, 2747. 8s. 7d.; payments, 2710. 3s. 7d.; profit, 57. 5s., which, added to last month's balance of £229. 6s. 2d., made an available balance of £288. 11s. 2d., which was carried forward to next month's account.

ANGLO-AUSTRALIAN (Gold).—Capt. Ralsbeck, July 12: Rise 200 ft. Cross-cut: The contractors rose 9 ft., and holed to the north drive from Prospecting shaft; height from the 200 ft. cross-cut, 59 ft. I was anxious to ascertain the value of the quartz east and west of the drive, and placed the men from the 320 ft. cross-cut to test it. We drove east 12 ft. in two places, and west 15 ft. I am sorry to say the quartz gradually got smaller and of less value. In the west the stone is 8 in. thick, and in the east it is 4 in. thick. We crushed 24 tons from those two places, and resulted, 2 oza. of gold. We then crushed 80 tons, taken principally from a block of stone we left whilst driving from the Prospecting shaft—result, 5 oza. of gold. You will see by the last crushing that the north drive has been driven in the best part of the quartz, and from the present appearance of the workings I do not think this run of stone will be a benefit to us for further prospecting, as these two lots have hardly cleared the cost of breaking and crushing. After the result of the first crushing, I recommended driving the 320 ft. cross-cut. I have, however, kept two men working on the quartz; they drive on different places to see if we can find anything better. In the 320 ft. cross-cut the drive has been extended 22 ft.—distance from shaft 216 ft. We have not as yet struck anything worthy of notice, but we are in the quartz country, and may at any time strike stone. I hope we shall be able to continue prospecting in this channel of ground, as I believe it is merely a matter of time as to the result. We have crushed for the public during the month 75 tons of stone.

AUSTRALIAN CENTRAL (Gold).—Mr. Gill, July 12: The bottom level is now completed so far as required for immediate use, and first-class ventilation secured, both upper and lower levels having been connected. The lower level is large enough for a double tramway lode. During the last three weeks the work has been delayed considerably, very hard ground having been met with in the "jump-up" shaft and upper level, which is now extended 60 ft. north from "pass." On Wednesday last wash-dirt was struck on top of drive; it is gradually dipping, evidently showing we are on the edge of the deep ground, which I hope will be struck in about two days from date. The prospects obtained from the wash dirt on the side of the gutter are most satisfactory and encouraging, and go far to prove the value of the lower level, and the deeper portions of the ground. The one obstacle to success now is the want of means to complete the "semi-circular" drive, and in making room for men underground, and also for the purchase of timber and mine materials. This requirement being satisfied I hope to have the mine in dividend-paying order in a few weeks, if not the property must be inevitably sacrificed. Capt. Angwin writes, under date July 10:—During the past four weeks we have completed a "jump-up" shaft, and after driving 60 ft. in top level through slate and sandstone, intersected with quartz leaders, we broke through into wash-dirt, good-looking dirt with gold in face. I tried a prospect yesterday, which gave at the rate of 3 dwts. of gold to the truck. One-third of that amount would be most satisfactory, as it would give the company good dividends, and would be one of the best mines in the colony. The wash-dirt in face is only at present about 1 ft. thick. We have not struck the main body of wash yet—about 3 ft. thick. Shall open the north-west side of the main drive, and hope in the course of a day or two to reach it. All I shall require for opening up the mine will be about 400l. to get it in working order. (Since the above date the directors have remitted 300l. by telegram.)

ENGLISH AND AUSTRALIAN (Copper).—The directors have advices from their manager, dated Port Adelaide, July 15:—The quantity of copper shipped since last advices was 182 tons. All the furnaces were in full work both at Port Adelaide and Newcastle. No returns of stocks of coal on hand and afloat have been received by this mail.

SCOTTISH AUSTRALIAN.—The directors have advices from Sydney, dated July 12, with reports from the Lambton Colliery to July 5. The sales of coal from the Lambton Colliery for the month of June amounted to 12,409 tons.

ENGLISH AUSTRALIAN.—The directors have advices from the committee of inspection at Adelaide, dated July 15, with reports from the Kurilla Mine to July 12. The following are extracts from Capt. Anthony's report:—The stope in the back of the 15, east of Hall's shaft, continues to turn out a good pile of ore, and I am led to hope that a considerable quantity of green ore yet stands above this stope. The 15, east of Hall's, has continued to open tribute ground, and will be holed to the trial shaft A (the first new discovery), towards which it is now pointing, in a few days' time. I have deepened this shaft (A) 2 fms. more, or to the back of the 15 drive. The attic pass is holed to the 15, and the men put to deepen one of the trial shafts further west to ventilate the work, where the prospects are good, and a good lode of grey ore, of which I am now raising a good pile. The rise in back of the 25, east of Hall's shaft, under the new hauling shaft, is now within 2 fms. of the 15, and all well, will be holed in a fortnight from now. The lode for the first 5 fms. upwards was good, but since that it has hardly more than paid for working. I have reset the old pitch in the 25 east, to two men, at 10s. in 12. Grainger's shaft is now cut down and timbered to within 4 fms. of the 25, and will be ready for receiving the pitwork quite in time for the new engine. I continue to drive the 10 west, on the new lode, by two men, with every prospect of the lode not only continuing in that direction, but of making ore, a good shoot of which has been passed through during the month. Two men continue to stop out ore east of No. 1 shaft, from which (with the addition of about 8 tons from the end) I have to-day bagged about 40 tons of ore. I have made and erected an excellent horse whelm between the Kurilla and the new lode, to haul through the new hauling shaft, east of Hall's and No. 4 shaft, on the new lode. About 130 tons of average quality ore are now being bagged for market. The discovery of ore in the 15, east of Hall's, has very materially added to the value of the mine under existing circumstances, as it will enable us, should it last, and of which I now see no reason to doubt, to keep a regular return of ore until the back of the

BRITISH MINES.

DUCHY GREAT CONSOL—The value of the workings and prospects of this mine the driving of the 70 west is continued by the side of the lode, the ground, however, being hard, is slow.—Latchley Consols : Engine-shaft : In the 80 east, and east of Ellis's winze, we continue to drive by the side of the lode, where the ground is tolerably favourable for exploring, and congenial for mineral. In the 70, west of the lode, the ground is 2½ ft. wide, producing a considerable quantity of ore, worth together 9½ per cent. In the rise in the back of the 60, over Ellis's winze, for the new shaft, the ground is unfavourable for progress. The lode is 8 ft. wide, consisting of cupel, arsenical munda, and ore, worth 12½ per ft. The lode in the pitch in the back of the 30 west is 4 ft. wide, yielding 5 tons of munda impregnated with copper ore, worth 15½ per fathom. In the rise in the back of the 30, the ground is 10 ft. wide, yielding 10 tons of munda, which is altogether less than at the date of the last report; does not admit of any new shaft. The rising here is by the side of the lode. The new shaft is down 13 fms., in which

winning fair progress is being made. -Bancroft estimates the 150 west lode as being 120 ft. thick with the 140 west lode, the lode of gold of communication worth 122 per fathom. There being a difference in height between the two wells of some 4½ ft. the men are now engaged stoping the same to the west of the point of holing in order to bring the two ends to the same level, and no time will be lost in completing the same, when two winzes will be commenced in the bottom of the 150. In the stope in the back of the 150 west lode the lode is 100 ft. thick and the 140 west lode is 120 ft. thick. The bottom of the 140 west lode is 100 ft. from the east and west of Allen's winze, continues worth on an average 5 tons of ore, or 30½ per fathom. In the 140 west we are driving by the side of the lode, but owing to the hardness of the ground progress is slow. The lode in the two stopes in the bottom of the 150 west is worth on an average 6 tons of ore, or 15½ per fathom. In the 150 west lode the 5 ft. wide, composed of opsel, quartz, peach, munde, and iron ore, is worth 12½ per fathom. The 140 west lode is 100 ft. thick and is worth 12½ per fathom. In the 140 west lode the 100 ft. wide, is worth 4 tons of ore, or 12½ per fathom. In

NORTH TREKREKY.—R. Fryer, Sept. 15: Highburrrow Shaft: The lode in the stope in back of the 30 is still worth 19¢ per fathom, and in the stopes below the level 17¢ per fathom. No other change to notice during the past week.

OLD TREBURGETT.—W. Hancock, W. T. Bryant, Sept. 15: Setting Report: The 90 fm. level, to drive south of the engine shaft, on the lode, by six men, two months, at \$4. 10¢. per fathom; worth 8¢. per fathom. A stope in the back of this level, on the lode, by one month, at 60¢. per fathom; worth 6¢. per fathom. This will no doubt improve the lode. To set the top of the shaft, by six men, two months, at \$7. per fathom; producing since of silver-lead. No. 2 wins.

HOLLOWAY'S PILLS AND OINTMENT.—Neglected diarrhoea and bow complaints often run into more serious, and even fatal, disorders. All these complaints, and those of cholera, dysentery, and dyspepsia, if not originated in the use of some indigestible or irritating matter in the stomach or the bowels, and that to cure them it is absolutely necessary for some such remedy as Holloway's purifying pills to be taken. These pills expel with ease, safety, and expedition all deleterious material from the bowels and the blood, eject all morbid poisons from the system, and completely purify and renovate the whole constitution. Holloway's remedies are infallible in cases of indigestion, impaired appetite, eructation, heartburn, waterbrash, sick headaches, and all bilious disorders.

With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Coal Cutting Machinery in England and America (W. Firth); "True Herodism" (J. A. Schilling); New Colliery and Iron Companies; Improved Metallurgical Process; Steam Superheated—Truss's Patent Hydraulic Engine; New System of Metallurgy (H. Wurtz); Channel Tunnel—the Submerged Tube System (John de la Haye); Richmond Consolidated Mining Company; Copper Mining on Lake Superior; Limited Liability Acts; Rock Drill and Hand Boring (J. Garland); Dividing Rod (T. Harvey, T. Welton); Gold in Wales, No. IV. (T. A. Readwin); The Gold Company, Wales; Silver-Lead and Blende Mining—the Llandilo District (C. Kneebone); Nascent Copper Process (S. H. Emmens); Mining Investment, and Mining Speculation; Cornish Mining—Wheatley Ores; South Canadian Mine—Management; Economy in Mine Management; West Chiverton; Wheel Uny.—Registration of New Companies—Meeting of the Iron and Steel Institute—Patent Matters—Meetings of the Wye Valley, Gwanton Copper, Welsh Freehold Coal and Iron, South Roman Gravels, and East Lovell Companies.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, SEPT. 17, 1875.

COPPER.		s.	d.	s.	d.
Best selected...p. ton	91	0	—	92	0
Tough cake and tile	89	0	—	90	0
Sheathing & sheets...	85	0	—	86	0
Boils	93	0	—	94	0
Bottoms	95	0	—	96	0
Old	80	0	—	81	0
Australian, Wallaroo	92	0	—	93	0
ditto other brands	89	0	—	90	0
Chili bars, g.o.b.	81	10	—	82	0
Wire	0	11	—	0	12
T. lbs.	0	1	—	0	2
BRASS.		s.	d.	s.	d.
Sheets	90	—	100	—	100
Wire	92	—	93	—	94
Boils	94	—	95	—	96
Yellow metal sheathing	93	—	94	—	95
Boils	94	—	95	—	96
SPELTER.		s.	d.	s.	d.
Foreign on the spot...	24	10	—	24	15
to arrive	24	10	—	24	15
ZINC.		s.	d.	s.	d.
In sheets	30	10	—	31	10
TIN.		s.	d.	s.	d.
English blocks	89	0	—	90	0
Do., bars (in bars)	90	0	—	91	0
Do., refined	92	0	—	93	0
Bars	89	0	—	90	0
Straits	83	0	—	84	0
Australian	82	0	—	83	0
TIN-PLATES.*		s.	d.	s.	d.
IC Charcoal, 1st qua.	11	0	—	11	0
IX Do., 1st quality	11	0	—	11	0
IX Do., 2d quality	11	0	—	11	0
IX Do., 3d quality	11	0	—	11	0
IX Coke	11	0	—	11	0
IX Ditto	11	0	—	11	0
Canada plates, p. ton	11	0	—	11	0
Ditto, at works	11	0	—	11	0

* At the works, 1s. to 1s. 6d. per ton less. † Add 6s. for each X. Terms—plates 2s. per box below tin-plates of similar brand.

REMARKS.—Our markets have not undergone any material alteration during the week. The demand continues to remain of a limited character, and there is nothing in the immediate prospect to lead to the expectation that any particular improvement will take place. The supplies of most metals, although perhaps not so great as in times of activity in the trade, yet suffice for all existing purposes, and it seems probable that the balance may be maintained for some little time to come. The contingencies which might arise to disturb the existing condition of trade are to be looked for in the cropping up of the old difficulties respecting wages. But in view of the approaching winter, which is always a comparatively dull season of the year, owing to the northern ports being closed, it is not so likely that the men will place those obstacles in the way of trade, which they might be tempted to do were orders coming in in large quantities, and were masters becoming anxious as to the completion of contracts within specified time. The experience of the Ouseburn Co-operative Company should read a valuable lesson to employers and employed. The theory upon which this association was founded was no doubt sound and good, and at first sight it would seem a self-evident proposition that the work people having as direct an interest as the proprietors of the concern in which they laboured would, above all other things, study its ultimate success, but results have proved that this is not so. In good times, they were content with their wages and a share of the profits of the concern, but when the times changed, and the directors counselled a lower rate of wages and the greatest economy in the management, the men who had tasted of the sweets of a large wage could not realise the ultimate advantage which might ensue upon submitting to a present reduction, and voted themselves a continuance of such a rate of wages as has proved ruinous to the concern in which they were interested, and which has placed the Co-operative Company in liquidation.

If this be the course pursued by some of the most intelligent of the mechanics in the North of England, whose interest was clearly identical with that of the company for which they were working—for they were the company—is it to be wondered at that men who are paid servants, and whose interests are not so apparently identical with those of their masters, should be disposed to claim a rate of wages which at times it is utterly out of the power of the masters to pay. The circumstances under which the Ouseburn Company was established were such as to be essentially favourable for the reception by the labourers of a large wage. For instance, many of those who were interested in it were men of superior skill, and, knowing that they were working for themselves, the probability is that the work performed was not only of a first-class character, which would always command a better price, but that greater and more continuous industry during the hours of labour would probably be afforded; in other words, a better day's work would be done by these men for the same pay which might be earned elsewhere. If, under these very favourable conditions, a too high rate has resulted in total ruin, is it not a strong argument that under less favourable circumstances a similar demand, if complied with, would only render the resulting ruin more certain, complete, and speedy? When the workman can see that a necessary adjustment of conditions of trade, for a re-adjustment of wages from time to time, and that it is not altogether in consequence of selfish action on the part of the masters that the rate of wages is reduced—and that this is proved by the readiness with which the masters consent to arbitration in the matter—then there may be hope in the future; but so long as, in blindness to their own ultimate interests, the demand for high wages continues, in the face of a declining market, two facts are very clear, the first being that the masters being unable to comply with the demand of their men, the second result follows as a necessary sequence—the higher carries his orders to a cheaper market, and this country loses the trade. There is, from another point of view, no real gain by continuing a rate of wage which the selling price of the manufactured goods does not warrant; for the works can only be employed partially instead of fully, and, consequently, the amount earned is really lessened, although the rate of the day's wage be still maintained at the old standard.

Money continues cheap, and there is no change in the rate of discount, which stands at 2 per cent. at which it was placed on the 12th ult.

The harvest is now almost entirely housed, and the weather has throughout been most favourable for the in-gathering. The produce is said not to be up to the average, but dear bread is a contingency not to be expected.

COPPER.—The market during the early part of the week maintained the firmness which has characterised it throughout the month. There has not been very much doing, but the immediate requirements of consumers were sufficiently great to afford that support which was necessary for the maintenance of prices; but now it would appear that these demands are for the present satisfied, and as enquiries from other sources do not spring up, the tendency at the moment is towards a weak market, and this will be probably confirmed by the announcement made yesterday of charters from the West Coast for the first half of September of 200 tons, consisting of 1300 tons bars and ingots and 900 tons ore and regulus for England, 100 tons fine copper for the Continent, and 200 fine copper for America. Chili bars are quoted g.o.b. 81½. 10s. with three months' prompt, and same price for cash; Wallaroo, 92½. 10s. to 93½; Barra, 89½; English tough, 88½; best selected, 90½; India sheets, 4 x 4, 94½; strong sheets, 95½; yellow metal, 7½ to 8½. The Indian demand for manufactured copper is very dull, also yellow metal.

IRON.—By a careful adjustment of supply to demand, the pig-iron market in the North of England is maintained in a healthy condition. The published returns of the ironmasters indicate that stocks are not on the increase, and until the winter months close in upon us this is likely to continue—the more so as there is a probability of a still further reduction being made in the number of furnaces in blast. During the month of August the shipments to the Continent were very considerable, and the deliveries to Scotland were fully maintained, and as these deliveries are still proceeding quotations are upheld. No. 1, 57s. 6d. to 58s.; No. 3, 56s.; No. 4, 54s. 3d. Makers are engaged in the finished iron trade in the fulfilment of orders, which have been booked some time back, but enquiries come in very slowly, and still fewer contracts are passed, so that the prospect for the future is by no means bright, and it is feared that the coming winter will prove an unusually slacktime. The Scotch pig-iron market, which has been firm and steady for some time past, maintained this condition till about the middle of the week, when a strong demand set in, and prices advanced on Wednesday to 65s. 6d., and to-day 67s. has been given.

SHIPMENTS.

Week ending Sept. 11, 1875	Tons 12,982
Week ending Sept. 12, 1874	Tons 11,497
Increase	Tons 1,485
Total increase for 1875	Tons 92,273

LEAD.—The market continues very firm, without alteration as to price. Good soft English pig is quoted at 23½ to 23½ 5s.; soft Spanish, without silver, 22½, 12s. 6d., to 22½, 15s.

SPELTER.—Ordinary Silesian stands at 24½. 15s. to 25½. 5s.; W.H., 25½. 15s.; English hard is quoted 18½. 5s. to 18½. 10s.

QUICKSILVER is nominally quoted at from 12½. 12s. to 13½. 12s., but the market is unsettled.

TIN.—Throughout the week the market has been firm, and good demand having sprung up, considerable business has been done, at advancing prices. Straits is now quoted 83½. 10s.; Australian, 82½. 10s.

TIN-PLATES.—A considerable business has been done during the week, but at prices which leave but small profit, if any, to manufacturers.

THE IRON TRADE (Griffiths's Weekly Report).—Friday Evening. We have to report an advance of 2s. per ton in g.m.b. iron this week. The market closes to-day at 66s. 6d., which gives the gain above referred to. The following telegram:—"Glasgow, 3 P.M.—Market very strong. Business done in the forenoon at 67s. and 68s. 6d. In the afternoon up to 67s. 3d., a month open. It closed at 67s. 9d. and buyers shy. Most makers have again advanced their prices 1s. to 1s. 6d. to-day. We quote makers' No. 1 iron as follows:—Gartsherrie, 76s.; Coltness, 83s. 6d.; Calder, 76s.; Langloan, 76s.; Summerlee, 67s. 10s.; Monkland, 66s.; F.O.B. Glasgow; Glengarnock, 70s.; Eglinton, 65s.; F.O.B. Ardrossan; Shotts, 76s.; F.O.B. Leith; Kennel, 65s.; F.O.B. Boness.

We say the iron trade looks a little better than for some weeks past. As a large trade is done with Staffordshire, our deliveries in the Thames from this quarter have fallen off very considerably, which must be placed to the account of the men who were hesitating and playing at numerous works in the Black Country last week. Millington's and Sneathill plates are in improved demand; and the bars and other sorts made by the leading Staffordshire houses (say of the Earl of Dudley, "B.B.H.," "The Mitre," "S.C. Crown," John Bagnall and Sons, W. Millington and Co., Brown and Freers, and other leading Staffordshire houses)—are in fair demand, and the prices of all these firms are firm; 10½. for bars, and other sorts in proportion. The Earl of Dudley's 12s. 6d. extra, Blaenavon and Weardale bars are also in good request, and there is certainly a much better feeling in the trade in Staffordshire. The manufacturers of Middlesbrough want orders, and complain of the state of trade. The trade in Yorkshire by the leading houses is reported firm, but quiet.

More real business in Scotch pig iron this week. Prices slightly advanced for mixed numbers. For the raw material in Staffordshire a good business was done on the Birmingham Exchange yesterday, and prices well maintained. The pigs most in demand here were Sparrows' Frwd; Prymbo; Butlin's "Wellington"; and Macleure's "Stowe" in Northamptonshire. In native pig iron the Earl of Dudley's Rounds (Tivdale), Ward's, Prestefields; Adenbrooke's Bedworth; Barbour's Field; Holcroft's Boverux; Bilston; Matthews; Corby's Hall; Thomas; of the Birchills; the Union Furnaces, and Wednesbury Oak cold blast were in good demand. Several lots of Stanier's, Appleby's, the Chatterley Company, and Earl Granville's Etruria changed hands. The sale of 500 tons of Parkfield cinder was reported at 1s. 3d. advance. The sales of hematite from the West Coast did not keep pace with native brands at this Exchange. The bills of a house in the trade at Stockton have been returned here dishonoured this week.

The Aberdare Company's Works will be taken up by a new company. Mr. Turquand is the trustee. The old shareholders will receive debentures of the new company, who intend for the present to work the collieries only, which are now bringing to great success. The directors of the old company, who have referred to us for further advice, to report in the iron trade this week. The tin-plate trade remains unchanged. Prices, however, cannot go lower. Probably a resolution will be come to at the quarterly meeting to reduce the make still further.

COPPER.—Messrs. Harrington, Horan, & Co. (Liverpool)—Arrivals have during the fortnight of West Coast, S. A., produce—Viola, from Valparaiso, 50 tons bars; Valparaiso, from Valparaiso, 28 tons bars; Arquipa, from Valparaiso, 50 tons bars; West Indian, from Valparaiso, 35 tons bars. At Swansea—Huasco, from Lota, 627 tons bars; Glamraon, from Pan de Azucar, 590 tons ores. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Ingots.	Barilla.
Liverpool	—	—	10,390	—
Swansea	—	—	2,374	—
Total	—	—	12,764	—
representing about 13,475 tons fine copper, against 13,459 tons Aug. 31; 17,100 tons Sept. 15, 1874; 21,400 tons Sept. 15, 1873; 20,800 tons Sept. 15, 1872. Stock of Chili copper in Havre, 1445 tons fine. Stocks of Chili copper afloat and chartered to date, 13,442 tons fine. Stock of foreign copper in London, 7251 tons fine.				
According to the Board of Trade returns the total imports and exports into and from this country for the first eight months of the following years, were—				
IMPORTS.	1873.	1874.	1875.	
Copper in ores	5,367	4,911	5,169	
Ditto, regulus	9,007	8,859	10,408	
Bars, cake, and ingots	22,606	27,443	28,353	
In pyrites, estimated	9,359	9,305	9,435	
Total	46,339	50,518	53,365	
EXPORTS.				
English copper—wrought and unwrought	16,080	14,274	14,303	
Foreign copper—unwrought	14,208	16,556	10,006	
Yellow metal	7,352	9,405	9,212	
Total	37,640	40,235	33,521	

According to advices from Valparaiso the comparative exports of fine copper from Chili and Bolivia to all parts for the first six months of the following years—1872, 25,291 tons; 1873, 19,668 tons; 1874, 23,241 tons; 1875, 23,375 tons. The relative proportions of the different descriptions of copper being—

	1872.	1873.	1874.	1875.
Bar copper	73.89	68.96	73.400	74.229
Copper regulus	25.17	28.24	21.755	19.007
Copper ore	0.94	6.90	5.845	6.764
Total	100	100	100	100

Messrs. James and Shakespeare—COPPER: Bars were tolerably active at the commencement of the week, and a considerable quantity changed hands at the current values; since then, however, the enquiry has gradually fallen off, and quotations have become somewhat easier. Yesterday afternoon the Chili charters for the first half of the present month were advised by telegram as 2500 tons pure, of which 1300 in bars and ingots, 900 in ores and regulus for England, 100 in bars for the Continent, 200 in bars for the United States, and operators are now waiting to see what effect the news will have upon the market before entering into fresh business. A Australian sorts remain unchanged. English is quiet, and some parcels of tough and select are obtainable from second-hands at lower figures than the smelters are willing to accept.—TIN: English has advanced about 1s. per cwt., in sympathy with other sorts. In foreign descriptions we note a very brisk trade, accompanied by a rise in values of about 1s. per cwt. since Friday last, the tendency of the market at the close yesterday being still upward.—LEAD keeps very firm, and sales both of Spanish and English are reported at rather higher prices.—QUICKSILVER: This article is again dearer, and as the importer will only sell at present in small quantities for home consumption our quotations must be regarded as nominal.

Messrs. French and Smith—TIN is dearer. Straits firm, 83½. 10s.; Australian, 81½. 10s. to 82½, according to fineness of quality.—TIN-PLATES in fair demand, but the prices are lower. LEAD is still very firm at former prices.—QUICKSILVER is nominally 12½. 12s. per bottle, but only very small quantities are obtainable.

Messrs. Sandford and Bird—TIN: There has been a good demand during the past week, and prices have advanced to our quotations.—SPELTER continues firm.—SHEET ZINC has advanced 2s. per ton.

Mr. Murrant—TIN: A considerable business has been reported in Straits and Australian at slightly improved rates, and everyone would be glad to believe that a genuine reaction is taking place. Sales for forward delivery at proportionate values to those ruling for cash parcels have, however, been rather difficult to effect. As the London stock on August 31 was about 5720 tons, it will be seen that about 2740 tons of metal have been delivered out of the London stock during this year into private hands, exclusive of that exported. The tin annually raised in Cornwall in metal is roughly estimated as 11,000 tons. Another interesting fact is that, owing to the increased competition amongst producers, the price of English is not governed by Cornish standards to the same extent as formerly. The week's transactions are reported as follows:—600 tons Straits and 250 tons Australian, at 79s. 6d. to 83s. 6d. for cash and forward delivery; at the close there appeared more disposition to sell.—COPPER: In Chili the enquiry has not been so brisk as could be wished, and values have languished a little. The market for forward parcels has been particularly unsettled, 81½. 10s. being about the outside price obtainable for g.o.b. The charters for first half of this month were wired yesterday as 2500 tons; price of bars on the Coast, 18s. 5s., equal to (say) 81½. 10s., laid down in Liverpool, without merchants' commission. The above charters (making 5500 tons for the last month) caused the market to close flat. The sales have been 600 tons of g.o.b. and picked marks, at 81½. 10s. to 82½. 5s., for cash and arrival.—QUICKSILVER has an upward tendency.

Messrs. Henry Rogers, Sons, and Co.—COPPER hardly maintains its price for raw material. Bars have changed hands 5s. to 10s. below our quotations, and English is easier; but for manufactured full rates are asked, also for yellow metal, for which the demand is again moderately good. As we go to press the charters for the first fortnight in September are announced as 2500 tons.—TIN has further advanced. Straits being now quoted 83½. 10s. and Australian 82½. 10s. SPELTER: High prices have again been paid in the week for some considerable quantities, and zinc has been advanced 2s.—LEAD is 5s. dearer, but the demand is not excessive.

Messrs. Vivian, Younger, and Bond.—COPPER: Holders have been more willing to meet the market, and sales of bars have been made to a considerable extent during the week, resulting in a fall of 10s. to 15s. per ton in prices. The charters at Valparaiso for the first half of this month are advised, by cablegram received to-day, as 2500 tons of fine copper. The market closes very quiet at quotations.—TIN: A further advance has been established in this article. Since our last issue a large business has been transacted in foreign tin, at up to 83s. 6d. for Straits and 82s. for Australian, closing quiet at these rates. English is steady, without much demand.

At Swansea Ticketing, on Tuesday, 1174 tons of copper ore were sold, realising 17,605½. 6d. The particulars of the sale were—

	Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Over copper.
Aug. 24	1268	2103	17	0	19½	16	15s. 6d.
Sept. 14	1174	104	1	6	18½	14	19 11 11
Sept. 14	1174	104	1	6	18½	14	19 11 11

Compared with the last sale, the advance has been in the standard

4½. 6d., and in the price per ton of ore about 9d. On Sept. 28 there will be offered for sale various parcels of ore, from the Cape, Knockmahon, Lisbon, St. Josephsberg, and elsewhere.

The MINING SHARE MARKET since our last has been somewhat interfered with by the settlement of the fortnightly account, and business has been only moderately active. The mines chiefly in demand have been the old tin mines and a few speculative properties, among which some have advanced in price.

Carn Brea shares have reached 50 to 52½, being a rise of 4½; Dolcoath, 47 to 49, a rise of 2½; Tincroft, 25 to 27, a rise of 2½; Cook's Kitchen, 9 to 10, a rise of 1½; Van, 24 to 26; West Chiverton, 16½ to 17½. West Tolgus have advanced 10½ per share, to 61, 63.

East Pool, 15 to 16; at the meeting, on Monday, the accounts as presented showed a profit on two months' working of 1413½, and a dividend of 4s. 6d. per share was declared, leaving 5½. to be carried forward. The credits were—copper, 1043½; tin ores, 2385½; tin-stone, 2003½; arsenic, 650½. The 180, or bottom level, is worth 35½ per fathom. The various points in operation in the mine are valued in the aggregate at 570½ per fathom. The costs were only charged up to June, and the tin credited to the day of meeting. East Lovell, 7 to 8; at the meeting, on Wednesday, the accounts showed a balance in favour of the mine of 39½. 18s. 4d. The tin sales realised 2029½, tin ready for sale and credited, 350½. The costs were only charged to July. The new shaft at Fatwork is worth 4 tons of tin per fathom for length of shaft. At Tregonebris the lode is worth 15½ per fathom.

Wheal Uny, 2½ to 3½; at the meeting the accounts showed a loss of 480½ on three months' working, and a debit balance of 850½. A call of 3s. per share was made. Gawton Copper, ½ to ¾; at the meeting the accounts showed a debit balance of 281½, and a call of 2s. per share was made. The loss on four months' working was 299½, and the agents hope to decrease this loss if not make a profit in the next four months. Tylwyd, 1 to 1½. Great Wheal Vor, ½ to ¾; the lode in the shaft is looking well, ¾ ft. to 4 ft. wide, with a leader of tin 6 in. wide. Devon Great Consols, 2½ to 3½; in Dymond winze, which is now down 8 fms. below the 145, the lode continues a fine course of ore, worth 120½ per fathom. The 130 east is worth 36½ per fm. Castle winze is worth 50½ per fathom. The total points in operation yield in the aggregate 54 tons of copper ore per fathom. Tankerville, 10 to 10½; the sale of lead ores this week, 150 tons, realised 227½. 10s. for the month; the average price was 15½ per ton. Roman Gravels, 1½ to 1½½; the 95 north, going towards the shale, is worth 35½ per fathom. The 95, south of shaft, is in a lode worth 60½ per fathom.

South Roman Gravels, ½ to ¾; the directors' report, circulated preparatory to the general meeting, states that out of 2730 unissued shares at the last meeting 2077 had been applied for, and allotted at 1½ each, leaving 653 on hand. Since the last meeting a large shareholder, Mr. Edwin Crawshaw, of Newnham, Gloucestershire, has joined the direction, and made a personal inspection of the mine, of which he has a high opinion, but he recommends confining all operations to the sinking of the shaft down to the 60, below adit, without stopping to test the lode at shallower levels, and this will cost time and money. At the 20 and 30 the lode was large—12 ft. wide, yielding lead, and full of large cavities, such as was found in Tankerville adjoining; and although there is little doubt that the 60 would be the best depth for large courses of ore, it becomes a question in the state of the finances of the company whether it may not be politic to cut the lode at the 40 or 45, as hinted in the directors' report, and so obtain produce from the mine as a means for carrying it deeper. Few mines are better situated for success than this. On one side is Roman Gravels, producing 200 to 300 tons of lead ore per month, and selling at a market value of 150,000. On the other side is Tankerville, producing 150 tons per month, and also selling at about 150,000. Between two such mines as these, and with the same geological features, one would think South Roman Gravels beyond a speculation, and under the Cost-book System no difficulty would be found in getting the means of working it, but limited liability, which permits of a large outlay to begin with, cripples operations when they are most needed.

Bedford United, 15s. to 17s. 6d.; Bog, 6s. to 8s.; East Caradon, 1½ to 1½½; Great Laxey, 1½ to 1½½; Hingston Down, 1 to 1½; Ladywell, 2½ to 3; Marke Valley, 2½ to 3; Parys Mountain, 12s. to 14s.; Pennerley, 1½ to 1½½; Penstruthal, 10s. to 12s. 6d.; Prince of Wales, 2s. to 4s.; South Carn Brea, 1½ to 2; South Caradon, 12s. to 13s.; South Condurrow, 5½ to 6; South Crofty, 25 to 27½; Unity Wood, 10s. to 10s.; Van Consols, 1½ to 2½; West Basset, 6½ to 7; West Frances, 9 to 10. New Rosewarne, ½ to ¾; the lode in the 67 is producing good stones of copper, and getting near the ore ground driven through in the 58. The rise above the 67 is worth 5½. per fm.; the 58 end, 7½. per fm.; the stoep, 8½. per fathom. Relistian Consols, ½ to ¾; West Maria and Fortescue, 6s. to 8s.; West Tankerville, 1½ to 1½½; Wheal Crebor, 2½ to 2½½; the lode in the winze is not looking so well this week. Wheal Grenville, 2½ to 3; Wheal Kitty (St. Agnes), 2½ to 3½; Pateley Bridge, 6½ to 7½; St. Agnes Consols, 5½ to 5½½; Old Tincroft, 4 to 4½; the lode in the 40 is reported worth 13½ per fathom for tin. Saint Patrick, 20s. to 25s.; Cathedral, 25s. to 25s. 6d.; New Chiverton, 6½ to 6½½; the shaft is down ¾ fms. below the 35, and the lode producing good lead. The 35 north is worth 5½. per fathom; the 35 south, 6½. per fathom; 18 tons of lead ore have been sampled. Plynlimmon, 7s. to 9s.; the new shaft is going down below the 24, and in 3 ft. more sinking the lode will be in the shaft, and then sunk on its course; 40 tons of lead ore were sold on the 11th inst. for 570½, and we understand that since the beginning of July the balance of cash assets has increased from 1049½. to 1415½.

Chontales, 11s. to 13s.; the advices show a profit of 167½ in the month; the gold returned (384 ozs.) is valued at 913½; costs, including 100½. charged on account of construction, 746½, and the prospects at the different mines good. Javali, 14s. to 16s.; the advices here show a profit of 905½. 9s. 9d. in the month. The gold produced from 1540 tons of quartz (605 ozs.), is estimated at 1634½; costs, 728½. 10s. 3d. The result, it is said, would have been better but for a breakage. Eberhardt and Aurora, 8½ to 8½½; Emma, 1½ to 1½½; Flagstaff, 1½ to 1½½; Frontino and Bolivia, ½ to 1½; Richmond, 9½ to 9½½; Sweetland Creek, 2½ to 3½. Alamillos, 1½ to 2½; the directors have declared a dividend of 2s. per share. Fortuna, 4½ to 5½; a dividend of 6s. 6d. has been declared. Linars, 4½ to 4½½; a dividend of 5s. per share has been declared.

The Market for Mine Shares on the Stock Exchange during the week has maintained the activity of the past few weeks, and a good general business has been transacted. The firmness has been more apparent in certain departments, in which considerable purchases have been made, the general tendency pointing to further improvement.

In Silver Mines the demand has been irregular. Richmond shares have again been the chief object of attraction. Up to Tuesday the market was firm, and operations were recorded at 10½ to 10½. The price was subsequently forced down by speculative sales to 9½ to 9½, but for what legitimate reason it is by no means easy to conjecture. Cablegram received: Week's run, \$32,000. Crank of engine broken. Boiler repairing. Sunk below the 600, 6 ft. in ore. Doré bars to the value of \$31,000 were forwarded last week for sale. The bullion produced this season amounts to \$321,000, and since the end of February to \$1,043,000. The refinery this season has produced gold and silver to the value of \$550,000, irrespective of the lead. The breaking of the crank was an untoward accident, but we learn that the engine was started again in a day or two. It appears

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the cablegram announcement that the August run would be continued till Aug. 15, and that Capt. Drake will cable the result on or about Aug. 20. It will be recollected that Capt. Drake stopped the mill at the commencement of July, and it is probably intended to make only two "cleans-up" in the three months. This will effect a saving of from 4000, to 5000, while something like 150 tons more ore will be worked. Emma, 1 1/2 to 1 3/4; Flagstaff, 1 1/2 to 1 3/4.

In Foreign Gold Quartz Mines rather more business has been transacted during the week, Don Pedro, Chontales, and Javali showing a slight improvement. St. John del Rey close 395 to 405; the produce for August amounted to 52,500 oits, yield 10.3 oitaves per ton. The advices received on Thursday state that a new stoppe was taken up in the western part of the mine early in August, and was taken up of mineral sufficient for the daily use of all the stamps had a supply of mineral obtained. As there is now no stock of stone either on the spalling-floors or in the passes, it is deemed convenient, and certainly highly necessary, to stop some of the stamps for repairs. It is hoped that while this is being done a small stock of stone may be accumulated. Don Pedro, 11-16ths to 13-16ths; the produce for the month of August is 4150 oits, and the lode is reported to be encouragingly auriferous. Port Phillip, 11-16 to 13-16; the advices by mail confirm previous telegrams. The profit for the month ending June 16th was 57.5s., and the balance in hand on July 10th amounted to 1286.11s. 2d. Chontales, 8 to 9; the news received by the last mail shows that the wet season has set in, and that the manager was enabled to report 36 heads of stamps at work during the latter part of the month. The profit for the month was 2600. The pneumatic stamps are erected, and but for an obstruction in the water-race caused by a hard dyke or porphyry, these also would now be at work, and the profits proportionately increased. The manager reports that he is pushing on this work with all possible speed, and hopes shortly to be able to start these additional stamps.

Javali, 11-16ths to 13-16ths; during July 1540 tons of quartz were crushed, yielding 605 1/2 oits. of gold, being an average of 7 dwts. 21 grs. per ton. The gold is valued at 1634, and the months estimated profit is 905.9s. 9d. The agent reports the result would have been still better had not a stoppage occurred by the breakage of the new turbine wheel. Almada and Tirito, 1/2 to 3/4; the July profit is reported by telegram to be \$6185. Sierra Buttes, 1 1/2 to 1 3/4; ditto Plumas Eureka, 1 1/2 to 1 3/4; the Buttes clean-up for August is \$29,678, and the total Californian expenses \$21,472. The smallness of this return is doubtless attributable to the low grade of ore now being worked, the 6th level having been much poorer than the upper levels. A 7th level is being driven 300 ft. deeper, which it is expected will lay open new shoots of ore, and bring up the value of the quartz to its former average of \$10 to \$12 per ton. The Plumas Eureka clean-up for August is \$32,434, and the total Californian expenses \$18,631, leaving the satisfactory profit of \$13,803, equal to 27500 sterling, in addition to which 51 tons of sulphurets have been saved, which are estimated to yield a profit of \$60 to \$80 per ton. London and California, 7-16ths to 9-16ths; there is no clean-up this month, the mill having been stopped for want of water. Independence, 2 to 2 1/2; Frontino and Bolivia, 1 to 1 1/2.

There has been rather more enquiry on the Stock Exchange for shares in the Hydraulic Gold Mines during the past week. Sweetland Creek have improved, consequent upon a telegram of a clean-up, resulting in a profit of \$8000. These shares are tightly held. The prospects for the coming water season are considered extremely good. Blue Tent shares are quiet, and the ditch is progressing well, with every appearance of being finished in good time. Cedar Creek are without alteration. The Yankee tunnel is being pushed on as fast as the work will admit of. Oregon, 4 to 4 1/2; the accounts from this company continue very satisfactory. Capital progress is being made with the necessary ditch and tunnel, and as these are only short lengths it is expected that with ordinary success the whole will be finished by middle of November.

Lead Mines have again been in prominent request, in several instances, at advancing quotations. This department continues to be stimulated by the success attending the development of several of the principal home and foreign descriptions, aided by the marked improvement so steadily maintained in the value of lead. Linars, 4 1/2 to 4 3/4; a dividend of 5s. per share has been declared, making the aggregate amount paid in dividends up to the present time 15.4s. per each 3s. share. Alamillos, 1 1/2 to 2 1/4; a dividend of 2s. per share has been declared, making the aggregate amount 17.10s. per each 2s. share. Fortuna, 4 1/2 to 5 1/4; a dividend of 6s. 6d. has been declared, making the aggregate amount 51. per each 2s. share. Pontgibaud has advanced 1/2 upon the week, closing 18 to 20. Van, 24 to 26; the 90 west is now worth 45s. per cubic fathom; east is worth 30s. per cubic fathom, both ends having improved. Other parts of the mine looking as usual. The sampling for the month is 500 tons lead, and 150 tons blende. Pateley Bridge, 6 1/2 to 7 1/2; the mine generally is looking well. The new discovery remains of the same value as last reported. The 20 west has much improved, and now contains a branch of lead ore, 2 in. in width, solid. Van Consoles firm, at 1 1/2 to 2; the drawing shaft is now within 4 fathoms of the bottom level. This, when completed, will enable the course of lead on this part of the mine to be worked to the very best advantage. Great West Van, 1/2 to 3/4; Capt. Hodge reports an improvement in the 46 east, and this point being close on the point of entering the run of ore ground gone down in the bottom of the 34 fm. level west much better times are in store for this mine. The advices received from South Cwmystwith Lead Mine continue to be of the most encouraging character; excellent progress is being made in driving the various levels, into the ore ground, and the lodes at all points will undoubtedly yield well. Grogwinion, 3 to 3 1/2. Wye Valley, 3 1/2 to 4 1/2; the details of the general meeting appear in another column. Llanidloes Lead, 3 to 3 1/2; the new 50-inch Cornish engine is at work and giving great satisfaction, and the manager reports that the mine will be free of water in about a fortnight, immediately after which arrangements will be made for raising and crushing ore for market.

Bog, 1/2 to 3/4; the sinking of the shaft below the 175 fm. level has been commenced, and will be pushed on with all speed. The lode in the 175 and east maintains its value, and looks promising. No change in other parts calling for special mention. Pennerley, 1 1/2 to 1 3/4; at Potter's Pit the winzes Nos. 1 and 2 sinking below the 65, on the north lode, are still worth 4 tons and 3 tons per fathom respectively. The 75 fm. level has now been communicated, and driving on the course of the lode will be at once commenced. All other points without change.

Copper Mines have proved the exception to the general activity observable in other departments. There has, however, been some enquiry for Russia Copper, at an advance of 1/2, closing 2 1/2 to 3. Rio Tinto, 7 1/2 to 8; ditto, 7 per cent. debentures, 16 1/2 to 16 3/4; a telegram from Huella announces that the tunnel heading has struck the ore. English and Australian, 1 1/2 to 2; the quantity of copper shipped since last advices was 182 tons. All the furnaces were in full work, both at Port Adelaide and Newcastle. Cathedral, 25s. to 30s.; the manager continues to express his undoubted confidence that a great course of copper will be met with at an early date at the engine-shaft. The tribute pitches and stopes are producing fair quantities of copper ore.

Tin Mines have been enquired for. Great Wheal Vor shares in demand, at 1 1/2 to 1 3/4; it is satisfactory to learn that in sinking West Metal shaft a good lode has been met with about 3 1/2 or 4 ft. wide, with a strong leader of tin about 6 in. wide. Looking at the shallow workings—the bottom of the shaft being only 70 fms. from adit, or 90 fms. from surface—and the low monthly cost at which the mine is now carried on, this is a most important thing for the company, and may be the means of throwing fresh life into the whole neighbourhood. Penstruthal shares in demand, at 10s. to 12s. 6d.; the mine is opening most satisfactorily. The meeting will shortly be called, when the statements of accounts to be rendered will, it is stated, be satisfactory.

Subjoined are the closing quotations:—Asheton, 1 1/2 to 1 3/4; Bog, 1/2 to 3/4; East Carradon, 1 1/2 to 2; East Lovell, 7 to 8; East Van, 1 1/2 to 1 3/4; Great Laxey, 15 to 16; Great Vor, 3 1/2 to 1 1/2; Kingston Down, 1/2 to 1 1/2; Marke Valley, 3 1/2 to 3 3/4; Pateley Bridge, 6 1/2 to 7 1/2; Parys Mountain, 9-16 to 11-16; Pennerley, 1 1/2 to 1 3/4; Penstruthal, 1/2 to 3/4; Roman

Gravel, 11 1/2 to 12; Tincroft, 24 to 26; Tankerville, 10 to 11; Van, 24 to 26; West Chiverton, 16 to 17; West Basset, 6 1/2 to 6 3/4; West Tankerville, 1 1/2 to 1 3/4; Wheel Grenville, 2 1/2 to 2 3/4; Birdseye Creek, 1 1/2 to 2; Cape Copper, 34 to 35; Cedar Creek, 3 1/2 to 4; Eberhardt and Aurora, 8 1/2 to 8 3/4; Emma, 1 1/2 to 1 3/4; Flagstaff, 1 1/2 to 1 3/4; Last Chance, 1 to 1 1/4; Malabar, 1/2 to 3/4; Malpasco, 3/4 to 3/2; New Quebec, 2 1/2 to 3 1/2; Oregon, 4 to 4 1/2; Richmond Consolidated, 9 to 9 1/2; San Pedro, 1 1/2 to 1 3/4; South Aurora, 3 1/2 to 4; St. John del Rey, 385 to 405; Sweetland Creek, 2 1/2 to 3 1/2; Teocoma, 1/2 to 3/4; United Mexican, 2 1/2 to 3 1/2; Blue Tent, 4 1/2 to 4 3/4.

HALIFAX SHARE MARKET.—The following quotations are from Mr. J. H. Thackrah's list:—Halifax and Huddersfield Union Bank, 30; Halifax Joint-Stock Bank, 27 1/2; Halifax Commercial Bank, 24; London and Yorkshire Bank, 8 1/2; John Crossley, 13 1/2; Whitworth and Co., 8 1/2; Elland Gas, 20; Rastrick Gas, 18 1/2; Bradford Brick and Tile A, 25; B, 8 1/2; Charlestown Brick and Tile, 8; Ripponden Commercial, 12 1/2; Hebden Bridge Cotton, 10; Yorkshire Boiler Insurance Company, 21s.; Norton Brothers 8 1/2.

SILVER MINING IN NEVADA.—The financial report of the Chollar Potosi Mine for the year just closed is a very satisfactory one. The receipts from ores, &c., amounted to \$835,396, and the disbursements for mining, milling, &c., to \$557,359, leaving a profit of \$278,037. During the year 20,812 tons of ore were extracted, which, with 1424 tons in stock at the end of the last financial year, gave 22,236 tons. Of this quantity 18,250 tons were worked and 2563 tons sold, leaving 1423 tons in stock.

COQUIMBO RAILWAY.—The traffic returns for the six months ending June 30 show a satisfactory increase of profits, owing to reduction in working expenses. The receipts were—from goods, \$130,719; passengers, \$35,268; other sources, \$25,803—\$191,790, whilst the working expenses were \$89,712, leaving profit on the six months working of \$102,078. During the corresponding six months of the preceding year the receipts were—from goods, \$134,125; passengers, \$38,153; other sources, \$22,474—\$194,752; whilst the working expenses were \$95,942, leaving \$98,810 profit.

COPIAPO RAILWAY.—The traffic returns for the six months ending June 30 showed an increase in the receipts, but owing to an increase in the working expense the profit was slightly less. The receipts were—from goods, \$257,747; passengers, \$43,638; other sources, \$19,085—\$319,889, whilst the working expenses were \$128,538, leaving a profit on the six months working of \$191,350. During the corresponding six months of the preceding year the receipts were—from goods, \$247,339; passengers, \$46,083; other sources, \$20,548—\$313,970; whilst the working expenses were \$117,998, leaving \$195,972 profit.

THE OLD CWMYSTWITH MINES.—We hear that Messrs. John Taylor and Sons, of Queen-street-place, are forming a new company to purchase the lease and plant of these well-known mines, and to provide capital for extending the workings upon the recently-discovered north lode, described by Mr. Arthur Waters and other mining engineers as of very great value. These mines are worked entirely by water-power, and adit or drainage levels, and the lodes can, therefore, be explored with great economy, and the newly-discovered lode developed at several points with much rapidity. Having in recollection the past history of these mines, the large profits they have returned, and the well-known richness of the district, this property presents unusually good prospects to investors.

NEW CHIVERTON.—The shaft is down 3 1/2 fms. below the 35, and the lode produces good lead work, and likely to improve. The 35 north is worth 5s. per fathom, and the 35 south 6s. per fathom. They have sampled 18 tons of ore. The prospects of the mine continue exceedingly good.

THE LATE ENGINEERS OF WHEEL UNY.

We have been requested to publish the following letter, which was intended to have been read at the meeting of Wheel Uny, on Friday last:—

SIR,—In acknowledging the receipt of yours of the 13th ult., we furnish you with a copy of our reply to a notice that we received from Capt. Rich, in which was the following:—"We would respectfully suggest that opportunity should be taken to strengthen the tube of the second-hand boiler you are now fixing to Hind's engine. You are already aware of our opinion that tubes of this size, without being properly strengthened, are worked only at great risk; many competent authorities would, in fact, pronounce them unsafe."

We wish, further, to call your attention to a report on the machinery we sent on Oct. 27, a copy of which we sent to Capt. Rich, particularly to the following paragraph, referring to the pumping engine:—"The boilers are worked at a pressure quite up to what they are equal to. Two out of the four have their tubes strengthened with angle-iron rings around them, and we recommend the others being treated in the same way; in fact, we consider that all boilers should have their tubes strengthened in this way, or some other approved plan, as being essential for their safe working."

We are well aware of the difficulties in mines generally to turn boilerside a sufficient length of time to carry out our views, as expressed above; but in the case of Hind's engine no difficulty exists, as the engine has been idle some time and our recommendations could have been easily carried into effect; but the plan being carried out by Capt. Rich in total opposition to our views—viz., building a brick arch inside the tube, which we contend is destitute of all engineering principles, and not only does not add to the strength of the tube, but very materially reduces its evaporative power, by preventing the heated gas coming in direct contact with the tube, and an increased consumption of coal must therefore inevitably be the result. An outlay of 10s. per boiler would carry out our views and make the boilers three times as strong; while what is being done by Capt. Rich is of no earthly use as to strength, and, as we have shown, the very opposite for economy of fuel.

Although our connection with this company will shortly cease, yet, from being so long associated with it, we still feel interested, and wish you every success, and it is for this reason that we cannot refrain from warning you of the peril in which working; and, as an earnest, the object of the present is to offer to put our views to a test by submitting them to some independent authority, and suggest either to the engineers of the "Manchester Steam Users' Association," or of the "Midland Boiler Association Association," and if they do not support us in the opinion we have expressed above, we will not only pay the cost of such inspection, but, in addition, hand over a donation of 10s. 10s. to each of the two miners' hospitals; if, on the other hand, their verdict is in our favour, Capt. Rich to pay the cost of such inspection.

We shall be obliged by your bringing this forward and reading it to the adventurers at the meeting on Friday.

J. HOCKING AND SON.

Capt. THOMAS TONKIN is now professionally occupied on some extensive copper, lead, and hematite estates on the shores of the Mediterranean, in Tuscany, Italy.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Sept. 1—	Glanewald	20	£13 18 6	Walker, Parker, and Co.
2—	West Tankerville	20	14 18 6	George Burr.
3—	Ladywell	40	15 0 6	ditto
3—	Bayley Working	50	14 17 6	Adams & Eytton.
11—	Powell Consolidated	20	14 6 6	South Wales Smelt. Co.
—	Bwadrain	10	13 19 0	Nevill, Druce, and Co.
—	Plynlimmon	40	14 5 0	ditto
14—	Green Hurth	100	15 9 0	Cookson and Co.
16—	Tankerville	50	15 5 0	Panther Lead Company.
—	ditto	50	15 2 6	George Burr.
—	ditto	25	15 1 6	Burby Pot Company.
—	ditto	25	15 1 6	George Burr.

BLACK TIN.

Date.	Mines.	Tons c. q. lb.	Price per ton.	Amount.	Purchasers.
Sept. 9—	The Lovell	5 7 2 14	—	£2 288 17 6	—
11—	So. Condurrow	19 5 2 0	—	—	—

COPPER ORES.

Sampled Sept. 1, and sold at Swansea, Sept. 14.							
Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cape Ore.....	55	33½	£27 15 0	Cape Ore.....	2	17	£13 8 6
ditto.....	55	22	18 0 0	Berehaven.....	95	7½	5 17 0
ditto.....	67	22	17 17 0	ditto.....	73	8½	6 13 0
ditto.....	43	23½	18 14 0	ditto.....	73	8½	6 11 0
ditto.....	43	23½	18 19 0	Knockmahon130		7½	6 8 0
ditto.....	71	38½	26 5 6	Cronebane.....	61	4	2 19 0
ditto.....	80	21½	17 10 6	ditto.....	61	4½	2 19 0
ditto.....	88	22½	17 15 0	Concordia.....	38	18½	15 5 0
ditto.....	43	31	25 18 6	Bampfyde.....	15	8½	7 1 0
ditto.....	55	20½	24 6 6	ditto.....	6	24½	19 11 0
ditto.....	3	23½	19 13 6	Cloncurry.....	13	43½	36 11 0
ditto.....	3	33½	27 5 0	Copper Dust.....	11	15½	11 16 0
ditto.....	2	36½	30 0 0	Copper Ore.....	5	13½	11 1 0
ditto.....	6	25½	18 14 0				

TOTAL PRODUCE.

Cape Ore	638	£13,557 17 6	Bampfyde Ore	21	£223 1 0
Berehaven	249	1,525 4 0	Cloncurry Ore	11	475 3 0
Knockmahon	130	832 0 0	Copper Dust	11	129 16 0
Cronebane Ore	76	227 4 0	Copper Ore	5	55 5 0
Concordia Ore	38	579 10 0			

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Copper Miners' Company	5	£141 15 0
F. Grenfell and Sons	44	698 16 0
Nevill, Druce, and Co.	53	336 1 0
Vivian and Sons	194	1,244 8 0
Williams, Foster, and Co.	188 1/2	5,018 3 3
Mason and Elkington	78 1/2	1,854 2 3
Charles Lambert	319	4,254 2 6
Sweetland and Company	88	1,562 0 0
Copper Pass and Son	304	2,497 12 6
Total	1174	£17,605 0 6

Copper Ores for sale on Sept. 28 consist of—Cape Ore, Knockmahon, Lisbon Ore, Copper Ore, Italian Precipitate, St. Josephberg, and Copper Regulat.

TOTALS AND AVERAGES.

Whole sale	1174	12 1/2	£14 19 11	10s. 6d.	£104 1 6
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ORES, &c.

ARMAND FALLIZE.
INGENIEUR-CIVIL, A LIEGE (BELGIUM).
BUYER OF
ZINC AND LEAD ORES MIXED TOGETHER.
Particulars by letter.

CAPPER PASS AND SON, BRISTOL

ARE PURCHASERS OF
ANTIMONIAL or HARD LEAD, LEAD MATTE, LEAD SLAGS, LEAD ASHES, SULPHATE OF LEAD, COPPER SLAGS, COPPER REGULUS or MATTE, TIN ASHES, and TIN SCRUFF.
MIXED METALS and DROSS, containing LEAD, COPPER, TIN, or ANTIMONY.

HENRY SEWELL, M.E.,

Will LEAVE for PERU and CHILE on or about the 17th October. All letters from that period to be addressed LIMA, PERU, SOUTH AMERICA.
LONDON ADDRESS,—10, UPPER WESTBOURNE TERRACE.

CALIFORNIA, NEVADA, UTAH, COLORADO, AND THE

PACIFIC COAST OF MEXICO.

E. N. RIOTTE, M.E.,

After Fifteen Years' Practical Experience in the above States, has established himself as CONSULTING ENGINEER in SAN FRANCISCO.

Reports on Mines, as well as their metallurgical establishment, attended to by letter or cable.

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

COLLIERY AND OTHER SHARES.—"G. N." (Coolrain).—Quotations are given every week for all coal, iron, and mine shares, in which there is any business doing, and even for those which have only a nominal market value; but many shares, including those you mention, are saleable only by private negotiations. The secretaries of the several companies negotiate most of the business, and are usually in a position to find either buyers or sellers. At present all colliery and iron mine shares are extremely difficult of sale except at nominal prices.

MACHINE DRILLS AND AIR COMPRESSORS.—Will some correspondent kindly state, through the Journal, what horse-power is required to compress air sufficient to run two rock drills, making 1½ in. holes continuously, the drills being 240 fms. distant from the power; and, further, what would be the weight and cost of such a compressor?

CHANNEL SUBMARINE TUNNEL.—"W. and S." (Birmingham). A letter addressed to 98, Cannon-street, E.C., will receive attention.

THE FOREST OF DEAN.—"W. F." (Inverkeithing).—Mr. James Brown, of Newport, has the full set of plans, &c., relating to the Forest of Dean, and is willing to sell them. The whole, he writes, were got up by Messrs. T. Sopwith, F. Forster, and other men of mark at that day, at the cost of the Government.

DRAKE WALLS MINE.—We have received several letters calling attention to the unsatisfactory management of this company. One in particular relates what appears to be very questionable dealings respecting a poor widow's cottage; another refers to certain law proceedings for land damages, &c. We could not publish such letters without the writers' names being attached; but probably this reference to the different subject may be deemed sufficient.

THE SUPPLEMENTARY SHEET.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

Received.—"H. W." (Hoboken).—"H. S." (Bungay). The letter has been forwarded.—"O. S. B." (Colorado). All attended to.—"M. E." (Leeds).—"Shareholder" (Great Work).—"Member." We shall be glad of the particulars, also an illustration.—"R. F. B." (Torbay).—"T. J." (Penzance).—"T. M." (Tavistock).—"W. H."—"J. N." (Pontefract).—"Reader" (North).—"R. T. H." (Exeter). Much obliged.—"Scrutator." on Dowsing and Delving, shall appear next week.—"T. J. Barnard," on the Nascent Copper Process. Next week—"G. G." (Chon-tales and Javali). Next week—"Z." (English Mine Agents). Next week—"A. T." (Manchester).

* We have a great pressure on our space this week, which compels us to postpone several articles and letters which were intended for insertion. We shall endeavour in next week's Journal to publish all arrears.

IMPORTANT NOTICE.—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new Postal Convention, which came into operation on July 1, the postage of the Mining Journal to many countries will be reduced to one-fourth. Henceforth the subscription will be 1½ lb. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Hellenoland, Italy, Luxembourg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Serbia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 1½ lb. 50 frs.

AVIS IMPORTANT.—AUX ABONNES ETRANGERS DU "MINING JOURNAL."—A cause de la nouvelle Convention Postale il y avait, à partir du 1er juillet 1875, une grande diminution du prix de l'abonnement du Mining Journal pour bien des pays dont le taux des postes est de 1½ lb. 4d. par an. A partir du 1er juillet le prix de l'abonnement est de 39 frs., le port compris, pour l'Autriche, Belgique, France, Danemark et ses dépendances, l'Egypte, l'Allemagne, la Grèce, l'Italie, Hollande, Portugal et ses dépendances, Roumanie, Russie, Serbie, Suède, la Suisse, la Turquie, l'Afrique septentrionale, &c. Le montant, si l'on le veut, sera touché à domicile, la fin de l'an. L'abonnement continuera sauf avis contraire.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, SEPTEMBER 18, 1875.

MINING PROGRESS IN CORNWALL.

A thoroughly practical method of arousing Cornish miners from that distressing lethargy which has done so much to add to the hardships resulting from the long period of depression, happily now nearly past, has been adopted by Mr. BASSET, of Tehidy, who proposes a series of handsome prizes, to be awarded upon results actually produced, and who has himself contributed so large an amount to the prize fund, that the meeting of the Royal Cornwall Polytechnic Society, reported in another column of this day's Journal, at which the proposition was brought forward, will long be looked back to as one of the most memorable in the society's history. It was conclusively shown by Mr. BASSET that, whilst in all other mining districts of the world the progress during the past half century has been great and rapid, Cornwall and the adjoining county have been positively retrogressing, and it is this lamentable state of affairs that Mr. BASSET and the Royal Cornwall Polytechnic Society have determined to put a stop to by giving a substantial recompense to those who obtain results which demonstrate that the machinery or works under their control have been handled in the most efficient manner. Mr. BASSET feels that if less attention be given to mystic agencies and impossible chemical theories, and more to really practical matters, the position of Cornish mining generally will be improved, and if a few dozen mining companies could be induced to contribute to the prize fund to only one-tenth the amount which Mr. BASSET has given, the Royal Cornwall Polytechnic Society would be enabled so to extend the number and value of the prizes as to ensure results which would reimburse the subscribers tenfold in the shape of increased dividends from the mines in which they are interested.

In conducting mechanical processes it is an admitted fact that results once obtained can be obtained again, whence it follows that inasmuch as with the engine at the United Mines a duty of 128,000,000 has been reached, that is to say every pound of coal consumed has been made to raise more than 1,360,000 lbs. weight 1 foot high, the average duty of Cornish engines during the first half of the present year was but 47,000,000, so that each pound of coal consumed has raised only 420,000 lbs. weight 1 foot high. To put the case in still more simple form, the Cornish engines during the first six months of 1875 did with the same consumption of coal less than one-third the work which was actually done with the United Mines engine half a century ago. But this is not all, the Cornish engines were doing 10 per cent. more work in 1870 than in 1875, and they were doing 45 per cent. more work in 1842 than in 1875. The retrogression has thus been as constant as it is alarming, and reflects the utmost possible discredit upon both Cornish mine managers and Cornish engineers. It would appear that a class of writing managers have taken the place of the practical managers of former years, and that these writing managers have not followed the excellent example of the German and American by acquiring technical knowledge likely to be useful to them in their business. Yet that Cornishmen are not without the constitution and character which make good miners is shown by the high positions they attain in foreign countries, but the general aversion to progress which pervades the county seems to deprive Cornwall of her best miners, and leave none but the incompetent and uneducated to manage Cornish mines. The prizes suggested by Mr. BASSET will, it may be hoped, create a spirit of emulation which will be alike beneficial to the miners themselves and to the adventurers whose money is sunk in mines of the county.

By working the engines with the economy which it is only reasonable to expect, and this is ignoring all the progress of the past half-century, the same amount of benefit would be secured to the adventurers as if, the present wasteful system being continued, coals were reduced to 6s. or 7s. per ton, and still further economy might be secured by the adoption of Mr. BASSET's suggestion that several mines should combine to import their own coal. Indeed, the whole question is of such vital importance to the mining interests that it would probably prove beneficial, by forcing proper attention to it, if all investments from out-adventurers were withheld until it can be shown that at least 20 Cornish engines are raising not less than 1,000,000 lbs. weight 1 ft. high for each pound of coal consumed. They would then be doing but three-fourths the amount of work done by the United Mines engine 50 years ago. Mr. BASSET's views upon the introduction of machine boring are no less practical

than those with regard to engine duty. The special point, he said, which he had taken up was the question of increased economy of working produced by the substitution of mechanical means of boring, and he offered 200*l.* towards a premium of not less than 500*l.*, to be given to the inventor of any boring machine, which in the unanimous opinion of five referees, to be hereafter chosen, was generally applicable to, and in an appreciable degree capable of, expediting and economising the working and driving of Cornish mines at a depth of not less than 100 fms. from surface.

Now, it has been pretty well ascertained by experience that in ordinary mine work any given 50 fms. of ground which could be driven by hand for 300*l.* would cost 300*l.* to drive by machine drills, the same explosive being used in both instances, and hence it has been urged by some that no economy results from the use of machine drills. Yet nothing can be further from the fact, and Mr. BASSET has taken the best possible means of bringing forward the real circumstances of the case by remarking that he did not anticipate that the mine should spend less money, but that they should drive more rapidly through barren ground, and make greater returns for the same expenditure. The enormous economy results from the great saving in time and, consequently, in fixed charges effected. Supposing three agents to be employed at a mine, receiving together 32*l.* per month; enginemen and others paid by day work, 18*l.* per month = 50*l.* per month in all; and that the 50 fms. of ground mentioned is of such hardness that it would require two years to drive, the economy can be quickly shown. With machine drills the work could be done in from four to six months, so that, taking the longer period, there would be a saving of 18 months' fixed charges at 50*l.* per month = 900*l.* to the adventurers, which would of itself represent a very handsome profit. All these matters will be considered by Mr. Basset's referees, and the statements which they will thus be able to make in their reports will, doubtless, be of the utmost practical value.

THE COLLIERY FATALITY IN SHROPSHIRE.

A striking illustration of the dangers accompanying mining in old collieries has been furnished during the past week. We have been accustomed to regard water as the chief danger arising from the contiguity of workings for some time abandoned. That this is still a source of disaster against which much and continued care has to be exercised there is no room for doubt; and it may, perhaps, be set down as one of the leading sources of disaster which results from working near seams which have long ago been exhausted; but that water is not the only danger which should be anticipated all know who have had much experience in old mining districts. There is, for instance, foul air, which almost invariably accumulates in disused workings, and which, in the shape of carbonic acid, threatens human life if any accident should occur whereby it is allowed a means of escape. The past week's experience reveals another fatal cause which the mining interest should carefully guard against. Up to comparatively modern times it was usual in the Shropshire district, for example, in working one of the chief seams there, known as the double coal, to leave 2 ft. of coal immediately beneath a thin seam of clay which forms the floor of the double coal, the impression being that it was necessary that this 2 ft. of fuel should be left to form a roof for the working of the yellow stone, which is separated from it by only about 1½ ft. of valueless strata. In those days slack coal was almost worthless, and it was usual to leave a great deal of it below intermixed with mineral debris. If it should happen that with the small coal there should be a fair percentage of iron pyrites, and that upon this there should come down water either by filtration or from underground springs, then it is easy to understand that much risk of spontaneous combustion would arise; indeed, that spontaneous combustion would be inevitable in the event of air reaching such a rubbish heap. There is too much reason to fear that such an accumulation has existed for some years past in the pit of the Lilleshall Company, in Shropshire, known as "Henry Guy's pit," lying not far from the lodge furnaces of that company at Donnington Wood; and that to its existence is due the death of eleven miners who were there instantaneously poisoned by inhalation last Saturday morning. In this pit the double coal had been gotten, and the double coal workings had been closed—the entrance from the shaft being, we assume, bricked up, and the shaft continued to the depth required to work the yellow stone. To continue the getting of the stone and the coal which is worked with it, six men, forming the first detachment, went down at six o'clock. They signalled "All right," and then a detachment of five more was let down. These, too, gave a similar signal, and then, as had been previously arranged, a horse was lowered. No intimation was received at bank that the horse was safe, and there was no response to enquiries upon the point made from the surface. Fears became excited, and it was soon found that fire-stink and carbonic oxide had fouled the shaft between the time at which the men descended and the time when suspicion was aroused. There was, therefore, no getting down that shaft, which was the upcast, and means were at once extemporised for descending the downcast.

By bratticing and by re-opening an old way between the two shafts it became possible to get within seven yards of the inset, where it was in every way likely nine at least of the eleven men had gone, for their fireman had descended with them, and their duty would be to remain there until he had gone his round, and returning reported all safe. At the bottom of the upcast two men were found dead, who had been left off to receive the horse, and upon them lay the carcass of the beast. By boldly venturing through the seven yards beyond the reach of the little air carried by the brattice courageous miners succeeded in bringing out from the inset their nine dead comrades. They had all died from the inhalation of carbonic oxide, and that this carbonic oxide had been generated by a fire there was evidence enough alike in the sooted faces of several of the deceased and in the smoky atmosphere of the pit; and yet more conclusively in the fact that a fire was burning in the mine at a point, perhaps, 80 yards from the inset. In truth, the temporary damming up of the fire had had to be conducted simultaneously with the bringing out of the corpses. The fire appeared to have come down from the old seam, where the double coal had been worked, and the fire was such a one as might have been expected from the ignition of slack coal long pent up, but containing iron pyrites, and that had been ignited by the sudden introduction into it of air. How that air got to it is another matter. It might have got in through a crack in the roof, it may have been introduced by a fall, but whether by a crack or a fall the air would seem to have been admitted between the time at which the men left off on Friday night and that at which the deceased went down on Saturday morning.

Mr. THOMAS WYNN, the Government Inspector of the district, and Mr. S. B. GILROY, his assistant Government Inspector, have been able to get into the inset, where they found abundant indication of the fire-stink in the soot upon the timbers; and Mr. CHARLES GREEN, who is the manager of the Lilleshall Company's Donnington Wood Collieries, assisted by Mr. A. H. MAURICE, the manager of the company's Prior's Lee Collieries, is directing the operations for the stanking off and the ultimate extinction of the fire. The inquiry has been opened, and adjourned until Tuesday. By that time it may be hoped that it will be possible to get up to the point at which the fire originated, and there to trace how it began. The evidence which may be then unfolded, it is reasonable to assume, will assist those mining engineers who are developing seams below those which, now unused, have pent up in them accumulations of slack which are liable to fire when air is in any way introduced. Happily the working at the present day of the double coal in Shropshire will not bequeath to our successors that inheritance of risk which we have had handed down to us, for modern engineering has shown that it is possible to get the 2-ft. seam, which underlies the double coal, and overlies the yellow stone, and yet leave roof enough to protect the men whilst they are taking out the stone. There may have been an existence of gob in the abandoned double seam workings, but if the 2-ft. coal had not been left intact beneath it the spontaneous combustion of the gob would have been attended with much less risk than that which has been developed in this case. So far, therefore, as the future is concerned there is cause for satisfaction that the proportion of danger will decrease with advancing

years, but it is conclusive that mining engineers in the old districts must anticipate that they have in some of the old seams which surround them secreted mischief, against which they must carefully guard. It is the old tale, safety is ensured only by constantly believing in danger unrevealed, and in taking the requisite precautions. We hope it will not transpire in this case, that on Friday there had been traced some noxious fumes which cannot fairly be accounted for by water having been thrown upon the fire of the ventilating furnace at the bottom of the up-cast.

MECHANICAL PUDDLING—THE PERNOT FURNACE.

For some time past the rotating bottom furnace invented by Mr. CHARLES PERNOT, superintendent of the works of Messrs. PETIT, GAUDET, and Co., at St. Chamond, has been attracting considerable attention in France, and it certainly appears more likely to solve the question of mechanical puddling than any other machine at present before the public. The Pernot furnace originally erected at St. Chamond was used for the mechanical puddling of iron, and the results obtained were highly satisfactory. The furnace was then tried for the manufacture of puddled steel, some necessary modifications being of course introduced, and it is found to be comparatively simple and inexpensive in operation. The Pernot furnace is, speaking generally, an ordinary puddling furnace with an independent bottom in the shape of a shallow rotating basin or "pot," mounted on an oblique axle, and kept rotating so as constantly to displace the fused metal. At its junction with the fixed part of the furnace from 3 to 4 centimetres play is allowed. The asphalt is tightly closed, and into it the blast is introduced, which drives the flame and the gas over the moveable bottom without escaping at the junction, and without allowing the penetration of the exterior air, for the equilibrium of pressure of the air and the gaseous products of combustion is an essential condition, and is an advantage which renders the process completely practical by reducing the repairs of the joint, which is reasonably durable. The pot is cooled and preserved by being kept constantly surrounded by a stream of cold water. In the inclined moveable pot all the molecules of the metal are successively exposed in thin layers for a short time, and are carried round and elevated by the rotation into the upper part of the furnace, and yet they are not unduly exposed to oxidation, because as they arise they again descend, and are plunged into the bath of iron which is in the lower part of the furnace.

Many advantages are claimed for the Pernot furnace, and the results obtained appear to justify them. The temperature produced by the fire urged by the blast is very regular. Each part of the bath is heated successively in thin layers instead of being heated from the surface alone, as in ordinary furnaces. The heat arising from the chemical reactions produces an intermolecular combustion comparable to that which takes place in the Bessemer process. The entire movable apparatus is mounted on a four-wheeled truck, which permits of its being easily withdrawn from the furnace, which it is necessary to do in order to facilitate repairs, and this mechanical combination presents the advantage of not losing the time which in other furnaces attends their complete cooling, in order to allow of the repairs which are required after one or more operation. The furnaces at St. Chamond for treating 1 ton has a pot of the mean diameter of 2.40 metres which corresponds to a surface of 4.522 metres, and from four to five charges per turn of twelve hours can be worked without difficulty, drawing 17 or 18 balls or lumps at each, the last being as hot as the first. The continuous rotation of the bottom enables the workmen to divide the balls with ease, by bringing all parts of the fused metal successively before the working doors, and this rotation also enables the removal of the balls when formed to be accomplished without difficulty.

After drying a new furnace and raising it to a white-heat, some scrap is oxidised in the same way as in the ordinary system of puddling for filling all the joints formed by the pieces of iron ore which are placed around the sides of the furnace, and finally a smooth surface without fissures is obtained. As soon as the scrap becomes hot the blast is shut off to oxidise it and make it flow. This is absolutely necessary in furnaces worked with a blast, as the flame repels the air and will not permit it to enter the doors. During all the time required for heating and oxidising the scrap, which is about one hour, the bottom remains fixed, or is allowed a movement of 25 to 40 centimetres per second. In charging and managing the furnace the hammer slag or scales from the furnace having been introduced and spread in the usual manner, they charge the required quantity of pig-iron which has already been heated in a special furnace of sufficient size to supply all the puddling-furnaces in the mill; the blast is then turned under the grate, the pot remaining stationary, but the outside is kept cool if necessary. The charge is soon raised to a bright red-heat, and in 35 or 40 minutes is completely fused. It is then that the rabbling, properly so-called, commences, and this is effected by the rotation of the pot. When the iron comes to nature the rotation is stopped, and the mass is divided and removed in convenient sized balls.

DESILVERISATION OF LEAD—THE GUILLEM PROCESS.

It was mentioned in the *Mining Journal* of Aug. 7 and Aug. 14 that a new process of desilvering lead by steam had been introduced a little more than two years since by Mr. ROZAN, a Frenchman, who has given his name to this system. But in these days science never ceases to make discoveries, and by means of its inexhaustible resources it is always seeking to improve upon new ways, both practical and economical, of which trade in general stands in so great need, in order that it may keep a high standing in the continual march of progress. Thus it is that a year had no sooner passed away since the process was put forward by Mr. ROZAN, than Mr. GUILLEM, a Spaniard, and the most important refiner of silver-lead in France, made the discovery of recovering in a practical manner, in the state of metal, a very great portion of the zinc which a special process permits of being employed in order to carry out the desilvering of silver-lead more promptly and more economically than by the Pattinson system.

In order thoroughly to appreciate all the advantages of desilvering by the Guillem system, it is necessary to point out to those manufacturers who have the greatest interest in the progress of science that since the last seven years the desilvering of lead is no longer carried on in many of the principal works in England and France by the Pattinson system, but by the Flach process, which is used in preference, because it avoids the great evaporation of lead and silver, which previously rendered impossible the use of zinc, so highly prized in its day for the desilvering of silver-leads. This process, discovered by the clever German chemist, Mr. FLACH, of Bonn, who has given his name to the system, was recognised as the most satisfactory, and was specially introduced in some of the most important lead works in England—Messrs. Locke, Blackett, and Co., of Newcastle-on-Tyne; and again in France, at the works of Messrs. Guillem and Co., of Marseilles, who were, and are still, working the old-established business of Figueras. Evidently the adoption of the Flach system by these great manufacturers, and also by some other English smelters, a system which is still preserved in and adhered to by all who have tried it, proves sufficiently that it is held to be much more advantageous, more simple, and more economical than Pattinson's system which these firms formerly employed.

The Flach system, although looked upon as advantageous, still left room for an improvement much to be desired, if a means could be found for preventing the complete loss of the zinc employed in desilvering the lead and in enriching it. After much investigation, and experiments without number, M. GUILLEM discovered a method of perfecting this latter process. He found a practical means of recovering in the working a very large portion of zinc in the state of pure metal, which might again be used in new operations for desilvering and enriching silver-leads. One can easily understand the advantages of such an improvement which further has the merit of rendering perfectly practical and easy of working this system, known in England under the name of the Guillem system. It is placed within the reach of all smelters, because the means of installation are most simple, and the expense of little account.

No doubt whatever is now entertained as to the value of this im-

provement, since not only has the inventor, M. Guillem, used it for the last two years at his own works in France, but in his neighbourhood other great manufactories have adopted his process, and are working it to their great satisfaction; among other names we will cite those of Messrs. Locke, Blackett, and Co., of Newcastle-on-Tyne, and M. Figueroa, the chief lead smelter in Spain. In the face of such an adoption of the Guillem system on the part of these distinguished smelters, so universally known in the metallurgical world, there can be no difficulty in believing that science has advanced an immense step, even if it goes no further. The advantages resulting from M. Guillem's new discovery are numerous and easily appreciable, but it is sufficient to state—

- 1.—That the loss on the desilvered lead is only 1 per cent.
- 2.—That the excess of silver is 1 per cent.
- 3.—That 65 per cent. of zinc is recovered in a metallic state, on the whole of the zinc used.
- 4.—That there is only from 5 to 7 per cent. of dross or oxide.
- 5.—That the produce obtained in 18 hours of working is 95 per cent. of refined lead, and 5 per cent. of rich lead ready to be placed directly in the cupel. The enrichment is from 10 to 15 per cent. for the lead enriched in one single operation, thus avoiding the relative loss which follows when lead is passed in a large quantity to the cupellation by the old systems.

The adoption of the Guillem process is not costly, and requires the employment of very few workmen.

WASTE OF COAL IN CORNISH MINES.—It was shown by Mr. Basset, of Tehidy, at the meeting of the Royal Cornwall Polytechnic Society, on Tuesday, when offering 200l. towards a premium of not less than 500l. for a boring machine capable in an appreciable degree of expediting and economising the working and driving of Cornish mines at a depth of not less than 100 fathoms from surface, that the Cornish engines during the first six months of 1875 did with the same consumption of coal less than one-third the work which was actually done with the United Mines engine half-a-century ago. Can Cornishmen do nothing to remove such a stigma?

SWANSEA VALLEY STREAM COLLIERIES.—Three of the principal shareholders, in company with Mr. Warwick, visited the colliery and the works on Tuesday and Wednesday last. The buildings for the patent fuel works, with two powerful first-class engines, are erected complete, the boilers are both on ground, foundations complete, and a boiler complete, the second boiler will be placed in its bed as foundations for pug mill fixed; the second boiler will be placed in its bed as foundations for pug mill fixed. Very substantial masonry is being put in for the pug mill, coal mill are finished. The foundations for the presses are finished. Two strong timber bridges are complete across the river and canal. The embankment and works from the Midland Railway to the fuel works are all but finished, rails and sleepers are on ground. The rails were bought on advantageous terms from the Midland Railway. The Midland Railway having agreed to make the siding, a great saving of outlay is effected. The men are working day and night on the works. The contract for sinking to the "Red Vein" having been accepted, the contractor commenced the pit to win the celebrated vein last Tuesday, and rapid progress is being made. It appears this "Red Vein" is of great value, as it produces steam coal of the first quality. It is believed that the coal will be reached in about 100 yards, which will take about ten months. This "Red Vein" is under the entire 600 acres, the coal being 4 ft. 6 in. thick, and undivided; the quantity and the output is, really, almost unlimited, and could produce 300 to 500 tons a day for many years. The coal has at last been won in the No. 3 main level. As far as they have driven the coal appears likely to prove of good quality, and more bituminous than in levels Nos. 1 and 2. If the seam in this opening produces harder coal there will be, without doubt, a valuable quantity of coal to be obtained—probably, in three or four months some 100 tons a day could be turned out from No. 3 alone, this output increasing every two months. Preparations will be made at once to lay down tramroad to connect this with main incline. As soon as No. 3 is fully opened No. 4 level will be continued, which will also give a further acreage of coal. In both these levels are good beds of fire-clay. It would be desirable for the company to erect brickworks, which could be done at a small cost. The main levels have been driven on, the underground is well opened, and a daily output of some 200 tons can now be made. There is one flag quarry at work, yielding good flags; the other quarry is being worked chiefly for stones for the masonry at the fuel works. The probable return to be expected from the patent fuel, even with present low prices, is 2s. to 4s. a ton profit.

RAPID TELEGRAPHY.—We publish below an official account of the working of a new system of rapid telegraphy, which seems to present a solution to all the difficulties under which our telegraphic system labours. It is evident that one line will do by this system more work than is now done upon ten lines, the rates could be reduced to at least 6d. a word, and even then the increase of work would not encumber the lines and delay messages:—

Extract from the Official Report of the engineer of the Belgian General Telegraphs on the telegraphic machines presented by Mr. Barney, and put on trial on the telegraphic lines of Belgium, published in the *Indépendance Belge* on April 16 and September 5:—"The 16th March, at 5 1/2 p.m., I sent from Brussels simultaneously to Antwerp Exchange and to Liège. Mr. Barney, who was at Antwerp, announced that he received well. An agent of Mr. Barney was at Liège, and telegraphed to me that he received, but signals were faint. The 18th March we repeated the same trials. I was at Antwerp Exchange with Mr. Barney, whose son sent from Brussels; we received at Antwerp a despatch readable, and Liège announced that he received well. These two trials did not continue for a long time. The speed was from 300 to 400 words per minute. On the 1st of July the same message was sent by one transmitting instrument to Ostend and to Antwerp at the same time at the speed of 600 words in a minute. These trials were made over wires to Ostend of 250 kilometres long—176 miles, and to Antwerp, 92 kilometres long—56 miles. The 17th July a message was sent from Ostend to Brussels at a speed of 1092 words in one minute; all the message was easily read by the clerks present. On 25th August messages were sent from Brussels over a line 380 kilometres long—240 miles, at a speed of 600 words in one minute, and were read by the clerks."

This patent is the property of the Improved Electric Telegraph Company (Limited), 116, Palmerston Buildings, E.C.

GUNPOWDER IN MINES.—Mr. Wm. Hall, manager of the Digby Colliery, near Nottingham, appeared before the county magistrates at Nottingham, charged at the instance of Mr. Evans, the Government Inspector of Mines, with allowing loose powder to be used in the mine within three months of an explosion, and also with neglecting to have the mine properly ventilated. He pleaded guilty to both charges, and was fined 4l. 4s. One of the miners was also fined 1l. 1s. for using loose powder.

GUNCOOTON FOR FRANCE.—It is, perhaps, of some interest and importance to note the fact that the Patent Safety Guncooton Company (Limited) has secured a contract for the supply of a considerable quantity of guncooton to the French Government. During the execution of the order two French officers will be stationed at Stowmarket, near Norwich.

DEEP MINING AND HOT ENDS.—It appears that on the Comstock lode in Nevada, at a depth of 1500 ft., a temperature of 115° Fahr., has been reached, and the editor of the *Sutro Independent* suggests that in the future all deep mining on the Comstock lode will mainly, if not entirely, depend upon a plentiful supply of compressed air; and since the cost of making it by means of compressors erected over the different mining shafts, considering the high price of fuel, will be enormous, its preparation by each mining company will be quite out of question. There is but one source from which a power can be obtained adequate to furnishing an almost unlimited supply at a minimum cost, not only for ventilating purposes, but sufficient to set in motion every percussion drill and hoisting and pumping engine which may be required along the entire length of the Comstock lode, and in the whole district, to a depth of 5000 ft., for 100 years to come. That source is the Carson river, by utilising whose waters and the erection of ponderous air-compressing engines at the mouth of the Sutro Tunnel, compressed air may be conveyed through pipes to every mine in the district. The commission sent out by the Government of the United States to examine and report on the Sutro Tunnel—which consisted of Major-Generals H. G. Wright and John G. Foster and Prof. Newcomb—estimated the power which might be secured by damming Carson river at a suitable point and conducting the water through a flume to the entrance of the Sutro Tunnel, as equal to 86,445 nominal horse-power; one-fourth of that power would not only supply all the compressed air required in working the mines, but would furnish enough to propel all the reduction and concentrating works which may ever be erected.

COAL AND IRON IN THE UNITED STATES.—In the course of last year, the Chicago and North-Western Railroad Company purchased 16,500 tons of steel rails. A large portion of these steel rails have been put into the track during the past spring and summer; the new rails were paid for as delivered, partly in gold bonds and partly by the exchange of old rails for them. Anthracite coal is now being worked in Pennsylvania upon a very considerable scale; and has,

however, been a small increase in the production of bituminous coal. There is stated to be an enormous amount of coal in West Virginia, on the Kanawha, Guyandotte, &c.; a geological survey of the State is proposed. English rails are quoted at New York at \$48 to \$56 per ton gold; American rails are quoted at the works at \$47 to \$53 per ton currency.

REPORT FROM CORNWALL.

Sept. 16.—The past has been an uneventful week in matters more immediately connected with the mining interest. The recent improvement may, however, be said to have consolidated, and as a result we are now enjoying a time of calmer and more assured activity and hopefulness, unalloyed by that excitement which is so dangerous.

But if uneventful in the ordinary course, it has been by no means so when we glance beyond the common run of business. The meetings of the Royal Cornwall Polytechnic Society and of the Miners' Association of Cornwall and Devon have been onward this week at Falmouth, and circumstances have attended them quite beyond the ordinary routine which call for more than casual remark.

From time to time, chiefly through the agency of the Polytechnic Society, a number of Rock-Boring Machines have been introduced into the county, and some few have had the advantage of a full and fair test in actual operation among our mines. No borer yet seen, however, has proved adapted in practice to the peculiar conditions under which our mines are worked. Yet the supply of an efficient system of machine boring is one of our greatest wants. We need a good borer to relieve the men of that heaviest of all mining tasks, "beating the borer," to enable driving and sinking to be executed more cheaply, and what is of at least equal importance, and in some cases far more so, to enable explorative works to be conducted with greater rapidity. It was announced at the meeting of the Polytechnic Society that this matter has at length been taken up in right good earnest. Mr. Basset, of Tehidy, the owner of the largest mineral property in the county, then made the munificent offer of 200l. towards a premium of not less than 500l. to be awarded to the borer which in the unanimous opinion of five referees should be really adapted to the exigencies of Cornish mining, and Mr. A. P. Vivian, M.P., on behalf of the Polytechnic Society, accepted the offer, and assured Mr. Basset of co-operation. This should produce results, for as Mr. Richard Taylor afterwards pointed out—and from his numerous experiments and long experience no one is better qualified to speak—while no borer yet tried has answered, it is idle to suppose that Cornwall will stand alone in these matters, and that in her mines only boring machinery will not prove available. The right borer will be found, and no more practical step can be taken to obtain it.

Mr. Basset made two other pointed suggestions. Referring to the gradual and great decrease in engine duty—due certainly in part to the deterioration caused by age and by the necessity of keeping in constant operation, but in part, at least, available—he suggested that mines should club together, and, by a small subscription, offer prizes to those engineers who can produce the best proportionate results at the least expenditure of coal. This is a capital idea. Equally good, too, though in another way, is his suggestion that mines should co-operate to buy collieries, and thus import their own coal at the least rates. It is satisfying to hear one so deeply interested in the welfare of mining as is Mr. Basset speak so hopefully of its future. Nor was even this all. At the meeting of the Miners' Association, Mr. Basset offered 50l. for the discovery in the counties of Cornwall and Devon of new minerals of commercial value, and a like amount either for the discovery of new uses which will enhance the value of known minerals of little value, or for the best means of utilising waste products of mines. It will not be Mr. Basset's fault if scientific mining is not stimulated into practical use and prosperity.

The principal shareholder in Great Wheal Lovell (Mr. G. P. Bidder, Q.C.) has forwarded to Capt. Priske, manager of the mine, the sum of 10l. for distribution among the men who so nobly rescued the three men stricken down in the air-poisoned level last week. Mr. Bidder has also interested himself about the widow and children of John Jenkin, who died from the effects of suffocation after he was conveyed home, and has made provision for them. Johns and Rogers, the survivors, are so far recovered as to be able to walk out. The shaft and levels are now perfectly free of foul air, and working operations are being vigorously prosecuted.

The East Pool meeting, on Monday, was a most satisfactory one, the profit on the two months' working was 1413l. 10s. 4d., and the available balance of 1494l. enabled the committee to declare a dividend of 4s. 6d. per share, and to carry forward 54l. 10s. 4d. The best wishes for his future welfare and prosperity were voted by the adventurers to Capt. Hoskins, who ceases his connection with the mine to fill the office of mineral agent to Mr. Basset. Capt. Charles Bishop, of Penstruthal, was appointed in Capt. Hoskins's place. A high compliment was paid to Mr. W. H. Rule for his exertions in breaking down the monopoly which used to exist amongst the merchants serving the mines with materials. The condition of the mine was considered to be most favourable.

TRADE OF THE TYNE AND WEAR.

Sept. 16.—The shipments of steam, gas, and house coal have been on a good scale in both these rivers, but especially on the Tyne. The leading coalowners are able to keep the works nearly going full time, as they have in most cases good-class coals of various kinds, but those who can only raise second-class coals are in a bad case, as they have much difficulty in keeping their works going, and only receive low prices for their produce. On the Wear the extensive works at Lambton and Rainton, belonging to Earl Durham, have been well kept going of late. A large quantity of the best steam, gas, and house coal to be found in the North is produced at those works. A considerable quantity of the famous Hutton seam is still here, and there is not much of this seam remaining in the Wear or any other locality. In Durham the quantities sent by rail have been smaller, both of coals and coke; a good supply of coke, however, has been required for the Barrow and Yorkshire district; best foundry kinds of coke have been in good demand, and have been sold freely at 14s. to 15s. per ton at the ovens. Ordinary furnace coke is 12s. to 13s. 6d. The demand for manufacturing coals has been very moderate. These coals are sold from 6s. to 8s. per ton at the pits. Household coals have been reduced in Durham to 6d. per ton. Best coals now range from 12s. 6d. to 14s. 6d. per ton at the pits. The Pig-Iron Trade continues to improve; the make in Cleveland has been reduced, and the stocks now held are comparatively small, so that if the demand keeps improving, of which there is a prospect at present, the prices must advance; and, as ironmakers are getting the raw materials at low rates compared with those paid during the past few years, the prospect for the pig-iron makers is good at present. At Middlesbrough, on Tuesday, there was a very large attendance. The enquiry for No. 3 Cleveland pig was very strong, the price realised being 53s. 6d. per ton net cash; in some cases more was asked and got, and for immediate delivery 55s. is now demanded. The finished iron trade continues very dull, and there is a very limited demand for rails, bars, &c. The demand for plates is a little better, but not yet satisfactory. Some of the iron shipbuilders and engine-makers have few orders on hand at present. Founders generally are well employed.

The collapse, as it is feared, of the Ouseburn Engine Works has caused a painful feeling in the district as to the main cause or causes. It is expected that a full investigation will be demanded and made on behalf of the numerous shareholders. The concern, although placed in a most favourable position, has never made profits at all satisfactory to the proprietors, and as it was considered a sort of model co-operative concern, in which the chief part of the shares were held by working men, great interest was taken in the concern, and its success was anxiously hoped for, not only by the mechanics of the district, but also by all who felt an interest in the success of the working man. When the affair was in some difficulty a short time ago many of the powerful co-operative societies took shares, and furnished capital to carry it on, and if the money is lost, and it

is found that a great portion of it is, it will be a serious blow to the progress of the co-operative system in this district. As to the management of the concern, it has always been found that the main founder and manager of the concern, although an able man, was not fitted to be manager of these works, as he had no practical knowledge of engineering, or of any of the works carried on in the establishment.

NORTHERN INSTITUTE OF MINING AND MECHANICAL ENGINEERS.—A general meeting of members was held on Saturday, Mr. Lindsay Wood, lately elected President, occupied the chair. A large number of new members were elected. The secretary (Mr. Bunning) read "A Memoir of the Life of the late Mr. T. E. Foster," written by Mr. G. C. Greenwell, to whom a vote of thanks was awarded for his valuable contribution. The secretary stated that vacancies had occurred in the council on account of the resignation of Mr. John Taylor, one of the vice-presidents, and Mr. A. Goodman, one of the councillors. He also stated that an invitation had been given to the members of the Institute to visit the Barnsley district of the Yorkshire coal field on Oct. 13, 14, and 15, and the Council recommended that the invitation be accepted. The proposal is to visit Leeds, Barnsley, and Sheffield in the order of the days named, and the intention is that it be a joint meeting, and that the papers read shall be published in the Transactions of both societies. It was stated also that all the leading colliery owners and proprietors of factories had promised to open their works for the inspection of the members. The minutes of the council were confirmed, and it was stated that a circular giving details of the arrangements would be sent to each of the members.

The conduct of the Staffordshire Ironworkers' Association as regards the acceptance of the award recently made by the now broken up board of conciliation and arbitration is regarded with very strong feelings by the same class of men in the North of England, and is, in fact, likely to result in a total and final rupture between the two districts. The Northern men will, in all probability, refuse to be bound by the Staffordshire decision, and the South Yorkshire ironworkers will support the former, and after the settlement will ally themselves with the North instead of with Staffordshire, as at present. The Northerners assert that they have had no strike of any moment for nine years, while Staffordshire has been fertile in such disasters. Negotiations were entered upon on Tuesday relative to the matter, and the Staffordshire men made certain proposals which the others could not accept. Amongst them was one that the funds should be divided, which would give 5s. a head, but the Northern men say that many of their lodges are worth many pounds per man, so that the proposal is utterly impracticable.

REPORT FROM LANCASHIRE AND CHESHIRE.

Sept. 16.—There is no change of importance in the condition of the Iron and Coal Trades, which could not decidedly be worse than it is at present. The notion that because a trifle more business is being done the condition of affairs is mending is almost absurd. The fact is that the colliery proprietors are taking a course which even the great warnings of 1873-4 have not stopped. In those years it will be remembered a host of coalowners were completely crippled because of the low-priced contracts into which they had entered when trade was dull, and when under-bidding was keen. The same thing is being done now, and though on the surface it would appear that there is an improved trade, the real fact is that continued depression has produced a most unhealthy kind of competition.

In the iron trade, and especially in the finished iron and engineering works, wages are in an unsettled state, and this by no means tends to improve the state of affairs.

An extraordinary instance of the carelessness of workmen in mines occurred near Wigan this week. Two miners in the employ of Messrs. Dewhurst, Hoyle, and Smethurst were holing, and failed to take what apparently were most ordinary precautions in the way of spragging. The result was that a heavy fall of roof took place, and one of the men was killed. The survivor, when before the jury, admitted that the manager had spoken to them on the subject, and that by the course they were taking they were violating the rules of the colliery. Incidentally Mr. Smethurst, one of the proprietors, expressed his belief that during the last four years 100,000 men had become colliers who knew nothing about spragging, or the getting of coal. A verdict of "Accidental Death" was returned. The survivor of the two men was called before the Coroner and severely reprimanded.

In connection with another colliery inquest this week the Coroner has also had to administer censure. Four men were being lowered to their work at the collieries of the Gaiswood Coal and Iron Company, the engineman lost control of the engine, and they descended rapidly. The occupants of the hopper were dashed to the bottom of the shaft, and two of them were killed. The engineman—Topping by name—was seen to have been thrown down when attempting to reverse the engines, and it was stated that he had been personally cautioned against driving too fast. The throttle-valve of the engine leaked a little, and this, it was said, made the reversing lever hard to work. The Coroner expressed the opinion that no jury would convict Topping of manslaughter, although he might have prevented the accident, and the jury brought in a verdict of "Accidental Death," to which was added grave censure of the engineman.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Sept. 16.—The South Staffordshire Iron Trade has presented scarcely any new feature of interest since our last report. Stocks of pig-iron in the district are getting lighter, and prices have been less irregular in consequence, but the rates at which common and medium pigs are selling cannot leave much margin for producers' profit. Common cinder are quoted 2l. 15s., and best native all-mine 4l. 10s. for hot-air, and 6l. for cold-air makes. There is no change this week in the total number of furnaces blowing in the district. In the finished iron department of the trade there is not much doing, but the tone of the market, now that the labour disputes are less obstructive, is, on the whole, steadier. A few tolerable orders for branded bars have been placed this week with some of the leading firms, but sheets continue to be the most prominent feature of enquiry. Bars are quoted 7l. 15s. for common unmarked, and 10l. for branded per ton. The sheet makers ask 11l. for singles, but good specifications have been placed during the week at 10l. 15s. Boiler-plates are in moderately good demand at 10l. 10s. per ton. The aggregate production of finished iron in the district is considerably under the average.

The South Staffordshire Coal Trade is improving as to the demand for the better qualities, but common coal fails to command attention, and prices are irregular and without improvement.

The directors of the Cannock and Huntington Colliery Company (Limited) contemplate a trial of the new process of sinking shafts invented by M. Chaurion, of Brussels, and successfully used in many parts of Belgium. The process, which is simple and highly ingenious, is specially adapted for sinking through water-yielding strata. Pumps are entirely dispensed with, the water being left in the shaft to support the sides until the requisite depth is attained and cased throughout. The casing, which is let down piece by piece and joined together, resembles a huge telescope. It is simply boring on a large scale, the diameter averaging 15 ft. Should the process be adopted at Huntington the result of the experiment will be awaited with great interest.

To-day's quotations on the Birmingham Stock Exchange included—Cannock and Huntington Colliery, 4 1/2 prem.; Sandwell Park Colliery, 35; Patent Nut and Bolt, 4 1/2 prem.; Spon Lane Colliery, par; Staffordshire Wheel and Axle, 2 1/2 prem.; James Bagnall and Sons (Limited), 5; Chillington Iron, 4 1/2; and Patent Shaft and Axle, 3 1/2 prem.

On Monday morning it was discovered that a serious fire had been raging during the whole of Sunday night in the No. 25 pit, Wallers Colliery, Brierley Hill, Messrs. Whitehouse and Dando chartermasters. Lord Dudley is the owner of the mine, and the pit is worked by the masters, who find labour, horses, &c., on charter terms. The fire was discovered early, but such was the force it had attained that no one could venture within some yards of the shaft, in consequence of the heat and suffocating smoke and gases. After a time, and favoured by the wind, a short inspection from the surface was made, and it was found that

a manner that the largest possible quantity of air may be admitted to the furnace without leaving any space in the grate bars large enough to permit more than the smallest if any particles of the fuel to fall through, or between them unconsumed.

CARIBOU SILVER MINE.
A LETTER, addressed to M. ANKER, Esq., one of the Owners, from a Gentleman in COLORADO, lies at the Office of the MINING JOURNAL, 26, Fleet-street, London, E.C.**PRUSSIAN MINING AND IRONWORKS COMPANY**
(PREUSSISCHE BERGWERKS-UND HUTTEN-ACTIEN-GESELLSCHAFT).

BALANCE SHEET UP TO 30TH JUNE, 1875.

ACTIVA.	
VULCAN IRONWORKS.	
1-Immune property, 1873-74	£117,599 2 3
Increase, 1874-75	3,280 16 7 = £120,879 18 10
2-Engines, machinery, plant, tools, and furniture, 1873-74	28,309 19 5
Written off, 1873-74	1,711 10 0
Increase, 1874-75	226,598 9 4
3-Stock of iron, coals, ores, materials, and cash account, 1873-74	58,860 10 8
Increase, 1874-75	55,132 18 6 = £218,976 18 10

The balance sheet of the above Partial Obligations will take place on and after the 1st of July, 1875, upon the delivery of the respective Partial Obligations, and the remaining interest coupons, at the company's offices.

After the expiration of that time liability to the payment of further interest upon the above-mentioned Obligations ceases.

The Direction—TH. J. MULVANY.

Düsseldorf, the 9th of September, 1875.

VALUABLE MINING PROPERTY IN THE ISLE OF MAN FOR SALE.

IN RE THE VANNIN SILVER-LEAD MINING COMPANY (LIMITED).

IN VOLUNTARY LIQUIDATION.

WILL BE OFFERED FOR SALE, BY PUBLIC AUCTION,

on Tuesday, 21st September instant, the Property known as—

THE VANNIN SILVER-LEAD MINE,One of the most promising and *bona fide* Mining Speculations in the Isle of Man.

The Mine is situated near Ramsey, in the direct track of the Great Laxey and Great North Laxey Lodes; the principal lode (which has been found productive at surface) is in the line of the Great Laxey Lode, having a similar bearing and dip.

The company's interest in the leasehold of the mine (about 16 years) will first be put up for sale, and the purchaser will have the option of taking the Plant and Materials at the Mine at a valuation. Should the purchaser decline taking the Plant, &c., as above stated, it will subsequently be put up for sale in lots.

Sale to commence at the office of the company, 1, Albert-street, Ramsey, Isle of Man, at the hour of One o'clock P.M., when conditions will be declared.

For further particulars, apply to the Liquidator, Mr. FREDERICK SAUNDERS, 1, Albert-street, Ramsey; or to—

C. B. NELSON, Advocate, Ramsey.

Ramsey, Sept. 1, 1875.

GENERAL MINING COMPANY FOR IRELAND

(LIMITED). IN LIQUIDATION.

THE VALUABLE FREEHOLD AND LEASEHOLD MINERAL

AND OTHER INTERESTS, and the EXTENSIVE MINING and MANUFACTURING MACHINERY, PLANT, and BUILDINGS, of the GENERAL MINING COMPANY FOR IRELAND (LIMITED), situated at and in the neighbourhood of SILVERMINES, in the county of TIPPERARY, within five miles of the Nenagh Station of the Great Southern and Western Railway, and within eight of the Birr Station of the Limerick and Waterford and Limerick Railway System, TO BE SOLD, BY AUCTION, at Silvermines, on Wednesday, the 29th day of September, 1875, and succeeding days, commencing each day at noon precisely.

The mineral sets extend over about 2000 acres, and include deposits of calamine (carbonate of zinc), silver-lead, blende, copper, sulphur, and fire-clay, and are held partly in fee and partly under leasehold; all free from dead rents, and some free from royalty, and others subject to moderate royalties, with exceptionally favourable conditions for working.

The manufacturing plant comprises everything necessary for the making of zinc oxide direct from the calamine ore, which manufacture was successfully carried on by the General Mining Company.

The mining buildings, plant, and machinery include every requisite for carrying on extensive operations, and they are now in good working order.

Detailed particulars of the lots, with lists of the buildings, plant, and machinery, and the conditions of sale can be had from the undersigned, who will be prepared to receive private offers up to within one week of the day of sale—D. and T. FITZGERALD, Solicitors for the Liquidators, 20, St. Andrew's-street, Dublin; L. STURDERT, LL.D., THOMAS BAKER, Liquidators, 58, Abchurch-lane, London.

HENDON SPELTER WORKS COMPANY.

TO CAPITALISTS, PROMOTERS OF PUBLIC COMPANIES, & OTHERS.

FOR SALE, in consequence of the Death of the late Senior Partner, the SPELTER WORKS, situated at Hendon, in the borough of Sunderland, in the county of Durham, now being carried on under the style of "THE HENDON SPELTER COMPANY."

The works are situated within one mile of the well-known docks of the port of Sunderland, and adjoining the Hartlepool Branch of the North Eastern Railway, with which they are connected by high and low level sidings, and thereby placed in communication with all parts of the United Kingdom. Their position, within easy distance of both the ports of Newcastle and Sunderland, is very advantageous for the cheap importation of raw material, as also the forwarding of the manufactured article either by land or sea.

The ground on which the works are built could be either bought out or sold on a yearly perpetual ground rent, and any quantity under 20 acres could be included in the sale.

Being situated in the midst of the Durham Coal Field fuel of the best description can be obtained at a cost below almost any other part of the United Kingdom.

There are 19 workmen's cottages, which could be sold with the works.

The works contain 24 zinc furnaces, capable of producing 70 tons of metal a week, as also calciners, rollers, machinery, blacksmiths' and joiners' shops, &c., of sufficient capacity for a much larger number. The works could, therefore, be doubled at a comparatively small cost.

The quality of the metal made at these works is well known, and it, therefore, commands a ready sale at the highest prices.

Attached to the high level sidings are large depôts for coal, ore, &c.

The goodwill would, of course, go with the works, and they will be sold subject to all stock being taken at a fair market value.

The purchaser can also have the option of buying the CALCINING WORKS and VALUABLE MINES in SPAIN, thus allowing of the economical and regular supply of the raw material, and saving the mineowners' and merchants' profits.

As the ore from the South of Spain generally comes as ballast for ships laden with sparato, it has been brought for this company at an average cost of 7s. per ton, sometimes as low as 4s. 6d.

Further particulars can be had on application to the company.

IN VOLUNTARY LIQUIDATION UNDER THE COMPANIES ACT, 1862.**THE NEW LLANGYNOG LEAD MINING COMPANY (LIMITED).****TO BE SOLD, BY PRIVATE TREATY, ALL THE BENEFICIAL**

INTEREST of the New Llangynog Lead Mining Company (Limited) in the LLANGYNOG LEAD MINES, comprising all the valuable, productive, and extensive mines, veins, beds of lead, ore of lead, and other metals and minerals known collectively as the Llangynog Lead Mines, and in the reservoir, water-supply rights, easements, and interests thereto belonging, situated in the several parishes of Llangynog, Llanrhadril-y-n-Mochnant, Hirnant, and Pennant, in the county of Montgomery; and also the WHOLE of the movable PLANT and MACHINERY of the said company.

The Llangynog Lead Mines have been a highly productive and dividend-paying property.

The mines, machinery, and plant are in working order, and considerable quantities of ore are now being raised.

The works may be inspected at any time upon application to the Manager at the Mines. The leases and agreements may be inspected at the offices of Messrs. LONGUEVILLE, JONES, and WILLIAMS.

All further information may be obtained, and maps of the property inspected, on application to Messrs. GEO. HASWELL and SONS, 84, Foregate-street, Chester; to HENRY DENNIS, Esq., Mining Engineer, Hafod-y-Bwel, Ruabon; or to Messrs. LONGUEVILLE, JONES, and WILLIAMS, Solicitors, Oswestry.

TO CAPITALISTS OR PROMOTERS DESIRING TO MAKE MONEY.**TO BE SOLD, A COLLIERY ROYALTY IN NORTH WALES,**

close to rail or shipping port; several shafts partially sunk; coal fully proved of FOUR SEAMS of good HOUSE and STEAM COALS, in an area of upwards of 400 acres of surface. It adjoins the West Mostyn Coal Field, just successfully launched, where under sea (including Cannel) have been proved in addition to the above; so that eminent engineers state that the available coal in this royalty may be 80 feet thick.

Present holder will arrange to sell the entire to an individual or company for what it has cost him, dividing all profit made above, which, even in a normal state of the coal trade, must be large. Certain and safe surveys by eminent Staffordshire and Welsh engineers have already been made.

Address, "Ni Desperandum," care of Mr. Watson, 15, Fenwick-street, Liverpool.

CHINA CLAY AND TIN, COPPER, AND IRON ORES

IN CORNWALL.

THE LESSEE'S INTEREST in certain VALUABLE CHINA

CLAY AND TIN WORKS, in full operation, and also in certain CHINA CLAY AND TIN, COPPER, AND IRON ORES SETS IN CORNWALL TO BE DISPOSED OF.

Full particulars can be obtained on application to Mr. S. N. SCOTT, China Clay Merchant, St. Austell.

TO BE SOLD, BY PRIVATE TREATY, THE MINING PLANT

AND MACHINERY at the CHAMPION MINES, CREETOWN, SCOTLAND, consisting of PUMPING and PORTABLE ENGINES, WATER-WHEELS, PUMPS, MINE STORES, &c.

The plant can be seen on applying to Mr. JAMES MCQUEEN, on the Mine.

Tenders will be received by Mr. WALTER GATH, Accountant, 7, Old Post Office-court, Carlisle.

CONDENSING AND NON-CONDENSING HORIZONTAL

STEAM ENGINES, of the highest class, at low prices.

PUMPING AND WINDING ENGINES. First-class references.

ENGINEERS' TOOLS of all kinds, unrivalled for arrangement and general usefulness, at low prices. Inspection invited.

POLLOCK AND MACNAB,

BRITANNIA IRONWORKS, HYDE, NEAR MANCHESTER.

ROYAL SCHOOL OF MINES.

DEPARTMENT OF SCIENCE AND ART.

During the TWENTY-FIFTH SESSION, 1875-76, which will commence on the 1st of October, the following COURSES OF LECTURES and PRACTICAL DEMONSTRATIONS will be given:—

1.—CHEMISTRY..... By E. FRANKLAND, Ph.D., F.R.S.

2.—METALLURGY..... By JOHN PERCY, M.D., F.R.S.

3.—NATURAL HISTORY..... By T. H. HUXLEY, LL.D., F.R.S.

4.—MINERALOGY..... By WARINGTON W. SMYTH, M.A., F.R.S.—CHAIRMAN.

5.—MINING..... By A. C. RAMSAY, LL.D., F.R.S.

6.—GEOLOGY..... By FRED. GUTHRIE, M.A.

7.—APPLIED MECHANICS..... By T. M. GOODVEY, M.A.

8.—PHYSICS..... By Rev. J. H. EDGAR, M.A.

9.—MECHANICAL DRAWING..... By Rev. J. H. EDGAR, M.A.

The Lecture Fees for Students desirous of becoming Associates are £30 in one sum, on entrance, or two annual payments of £20, exclusive of the Laboratories.

Tickets to separate Courses of Lectures are issued at £3 and £4 each.

Officers in the Queen's Service, Her Majesty's Consuls, Acting Mining Agents and Managers, may obtain tickets at reduced fees.

Science Teachers are also admitted to the Lectures at reduced prices.

For a prospectus and information apply to the Registrar, Royal School of Mines, Jermyn-street, London, S.W.

TRENHAM REEKS, Registrar.

BRISTOL MINING SCHOOL.

The Governors of the Colston Trust intend at once to RE-ESTABLISH this SCHOOL in a thoroughly efficient manner.

The Course of Instruction will prepare Students to pass the Examinations for Government Certificates as Mine Managers, and the following are the subjects to be taught:—

MATHEMATICS and THEORETICAL MECHANICS, by J. Welsh and W. F. Wood.

DESCRIPTIVE GEOMETRY, MACHINE DRAWING, BUILDING CONSTRUCTION, APPLIED MECHANICS, and STEAM, by J. Munro, Associate of Royal College of Science, and late of Avonide Engine Works.

EXPERIMENTAL PHYSICS, by Ernest Cook, Associate of Royal College of Science.

CHEMISTRY and METALLURGY, by T. Coomber, F.C.S., Head Master, late of Royal School of Mines and Royal College of Chemistry.

CHEMICAL ANALYSIS and ASSAYING, by Herbert Munro, Associate of Royal College of Science, and Senior Chemical Scholar, London University.

GEOLOGY, MINERALOGY, SURVEYING, and MINING, by Ralph Tate, F.G.S., late of Royal School of Mines.

One day per week is spent in the field or mine, and considerable time is devoted to the plotting of surveys.

The next Session commences on the 4th of October, 1875, and closes on the 24th of June, 1876.

Appropriate Courses of Instruction are also provided for those who are to be engaged in the Management of Manufacturing, Metallurgical, or Engineering Operations.

Students under Fifteen Years of Age are not admitted.

The Tuition Fee is £10 per Session. The Entrance Fees are 2s. 6d. for Registration, and 10s. on admission. These Fees are inclusive, excepting for the Three Laboratory Courses of Qualitative Analysis, Quantitative Analysis, and Assaying, the Fees for which are £5 per Course.

The Laboratory is also open daily to the public for INSTRUCTION IN CHEMICAL ANALYSIS and ASSAYING. The Fee for this Instruction is £5 5s. per quarter, dating from entrance.

For further information regarding boarding houses, or any other matter, apply to the Registrar, Mr. WILLIAM BARGE, Merchants' Hall, Bristol, who will enter Pupils and receive Fees.

PROF. TENNANT'S LECTURES ON ROCKS AND MINERALS,

at King's College, are given on Wednesday and Friday mornings, from Nine to Ten o'clock, and on Thursday evenings from Eight to Nine. The LECTURES commence WEDNESDAY, October 8th, and will be continued to Easter. The public are invited to attend the College Fees.

PRIVATE INSTRUCTION in GEOLOGY and MINERALOGY can be had at 149, Strand, by those unable to attend Public Lectures.

REDUCTION OF PRICES.**PORTABLE ENGINES, ready for immediate delivery:—**

SINGLE CYLINDER ENGINES. DOUBLE CYLINDER ENGINES.

7 h.p., with 9 in. cylinder. 9 h.p., with 2 1/4 in. cylinders.

8 h.p., with 9 1/2 in. cylinder. 10 h.p., with 2 3/4 in. cylinders.

10 h.p., with 10 1/2 in. cylinder. 12 h.p., with 2 8/16 in. cylinders.

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20 h.p., with 2 10 1/2 in. cylinders.

VERTICAL ENGINES, COMBINED WITH BOILERS:—2 h.p., 3 h.p., 4 h.p.

Prices and full particulars free on application.

LEWIN, POOLE WORKS, DORSET.

COPPER MINE FOR SALE.**FOR SALE, A COPPER MINE, in FULL WORKING ORDER,**

in one of the best districts in CORNWALL. Regular and profitable returns are made. Water charges easy. Proprietors are prepared to treat for the entirety or a part of the property.

Apply, in the first instance, to "A. B.," Post Office, Redruth, Cornwall.

PORTABLE STEAM ENGINE FOR SALE, with two 13 1/2 in.

cylinders; also ONE with two 11 1/2 in. cylinders, both with link motion reversing gear, and with or without gearing to wind and pump.

FOR SALE, A GOOD SECOND-HAND 6-horse power PORTABLE

ENGINE, with a new 6 ft. pan mortar mill. Price of both, £145.

To be seen at—

BARROWS AND STEWART'S WORKS, BANBURY.

LYTLE'S IRON AGENCY

(LIMITED).

THE OFFICES of this company have recently been REMOVED

to 31, CHARING CROSS, and all COMMUNICATIONS should be addressed to—

JOSEPH K. JACKSON, Secretary.

LYTLE'S METALLURGICAL PATENTS.

COPPER, ZINC, AND OTHER METALS.

1.—Copper in one single operation, with great economy of fuel, labour, and capital outlay for plant.

2.—Zinc, with very large saving both in fuel and labour, with much increased net produce of metal from any given ore.

These processes are both worked as *perfectly continuous operations* in the vertical Blast Furnace with great cheapness, by the direct action of a carbonic oxide flame permeating amongst consolidated lumps of powdered ore and fuel. Zinc volatiles at the furnace top into a receiver, whilst Copper is withdrawn at the bottom of its furnace as a fine pure powdered metal, the separation of which from its gangue and from reduced iron at a merely nominal cost is a special feature of the new process. All this is accomplished by the simplest *well-tried* practical means, and with the cheapest fuel, such as colliery dust or the dust of brittle unconcentrated peat charcoal, the charcoal being produced from air dried peat, and charred in clay covered heaps on the bogs. No plant of any kind is needed for making this, nor useless, charcoal except spades, and the utilisation of peat without risk, as well as the reclamation of peat lands at a profit, is at last a solved problem. For all these metal processes the "Duff" or dust of bituminous coal, costing 3s. a ton, will answer instead of charcoal, but with a less pure product. The supply of peat charcoal on such easy conditions is practically unlimited. Dartmoor, close to inexhaustible ore in Cornwall, is offered to patentees by the square mile of finest peat at especially low prices for these processes. Thousands of acres of peat are available at once in the Eastern Counties, and vast tracts are scattered throughout the North, with many millions of acres in Ireland. Each acre yields on an average 1000 tons of charcoal.

Owing to the abundance and cheapness of the foreign ores of these metals, works upon the Thames under the patentee's own supervision will stand in the finest commercial position.

The patentee will not sell, or part in any way, with the sole control of his British patents, but he will be happy to let licenses on royalties, or to assist in forming companies as licensees, without any cash premium or purchase. The first company or frommaster who may work any of these processes shall be allowed a license to produce 100 tons of metal per week at a much lower royalty than that payable at any time by any other ordinary licensee in the United Kingdom.

The patentee will furnish a first-class manager to introduce and supervise his processes under his own instructions.

All enquiries or applications as regards the above or any other of his metal processes shall receive prompt attention if addressed direct to the patentee,—

WM. A. LYTLE, C.E., F.C.S.,

THE GROVE, HAMMERSMITH, LONDON, W

THE PATENT GUNPOWDER COMPANY

(LIMITED).

NOTICE TO MINE CAPTAINS AND ENGINEERS OF COLLIERIES

AND GRANITE MARBLE QUARRIES.

The POWDER of this company can NOW BE SUPPLIED.

PERFECT SAFETY IN USE AND STORE.

FREEDOM FROM SMOKE.

Sample charges for trials and agencies granted on application to the SECRETARY at the offices of the company,—

6, GREAT WINCHESTER STREET BUILDINGS, LONDON.

SCHREER AND BLANFORD ON THE BLOWPIPE.

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In accordance with the plan of amortisation of the Loans of £180,000 First Emission, and £200,000 Second Emission (Five per Cent. Priority Obligations) of this company, the following seventy-seven numbers of the former, and hundred and five numbers of the latter Partial Obligations, which are to be paid off at par on or after the 1st of July, 1876, were drawn by lot in the general meeting of the shareholders, held at Düsseldorf, on the 1st September inst., in presence of a notary public and witnesses—namely, the numbers

SEVENTY-SEVEN PARTIAL OBLIGATIONS—FIRST EMISSION.

1	783	1287	1991	3691	4597	5424
2	855	1314	2098	3710	4625	5486
3	878	1408	2202	3783	4690	5590
4	980	1432	2274	3806	4743	5681
5	1004	1490	2924	3817	4806	5708
6	1019	1606	3190	3857	4818	5729
7	1034	1649	3311	3925	4877	5819
8	1090	1853	3969	4103	4847	5872
9	1123	1858	3443	4250	4905	5876
10	1182	1899	3901	4441	4845	5958
11	1181	1879	3612	4688	4870	5998

Total £257,873 17 2

PROFIT AND LOSS ACCOUNT, UP TO 30TH JUNE, 1875.**DEBIT.**

To interest on obligations £12,997 3 8

Bad and doubtful debts 239 15 8

Working accounts, balance of loss upon:

Vulcan Ironworks £10,839 17 7

Iron Mines 2,708 18 11

Emin Colliery 6,219 10 7

Hansa Colliery 10,565 4 1 = 30,033 11 3

Written off for depreciation of value of stocks of ore at Vulcan Ironworks and Mines 4,545 11 6

Usual writing off in accordance with the Statutes 9,857 15 0 = 14,503 6 6

Total £57,873 17 2

CREDIT.

By working account, Alter Flusberg Iron Mine, net profit £ 170 0 7

Brought over to reserve fund 14,027 6 6

Balance, loss 43,476 10 1

Total £57,873 17 2

Audited and found correct and corresponding with the books.

THE COMMISSION OF AUDIT—H. C. CRUYS; GUST. ARNDT.

Düsseldorf, August, 1875.

PRUSSIAN MINING AND IRONWORKS COMPANY

(PREUSSISCHE BERGWERKS-UND HUTTEN-ACTIEN-GESELLSCHAFT).

REDEMPTION OF PRIORITY OBLIGATIONS.

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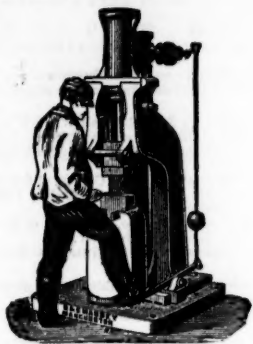
SEVENTY-SEVEN PARTIAL OBLIGATIONS—FIRST EMISSION.

1	783</
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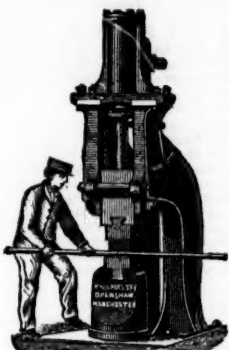
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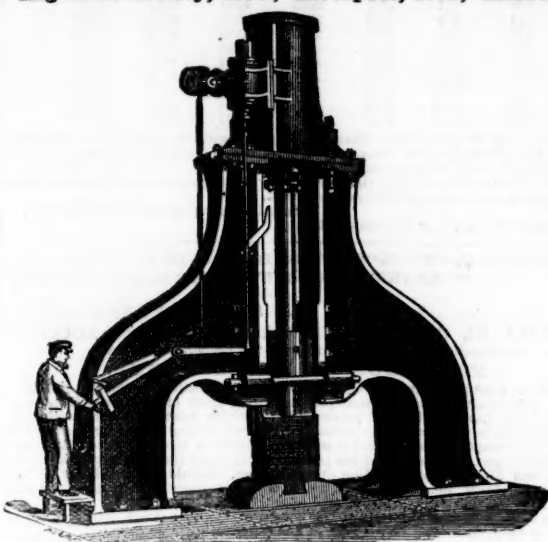
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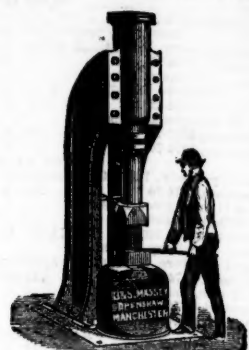
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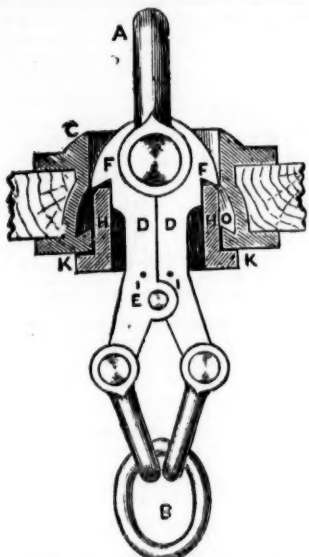


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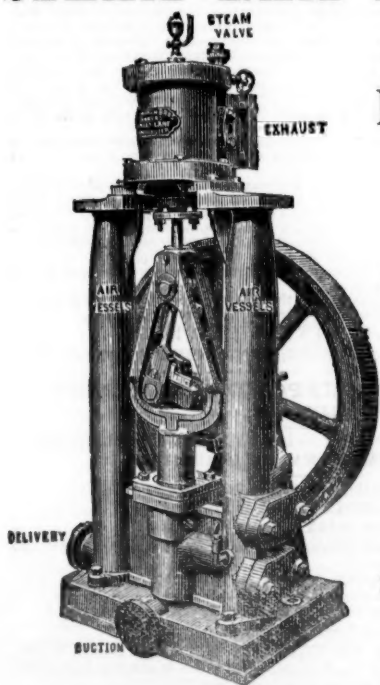
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Walker's Hook, at Tockett's sinking, has saved six men's lives. On the 6th instant, the kibble was overwound, and but for the hook would have fallen down the pit, where six men were working, 120 ft. below, all of whom would probably have been killed. Thanks, however, to Mr. Walker's invention, the rope alone passed harmlessly over, the kibble remained suspended, and in half-an-hour everything was working as if nothing had occurred.—From the *Northern Echo* August 20, 1874.

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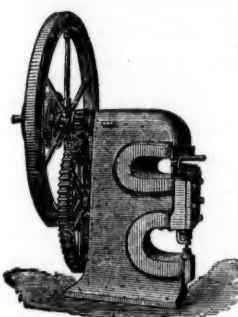
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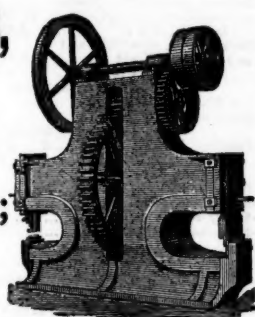
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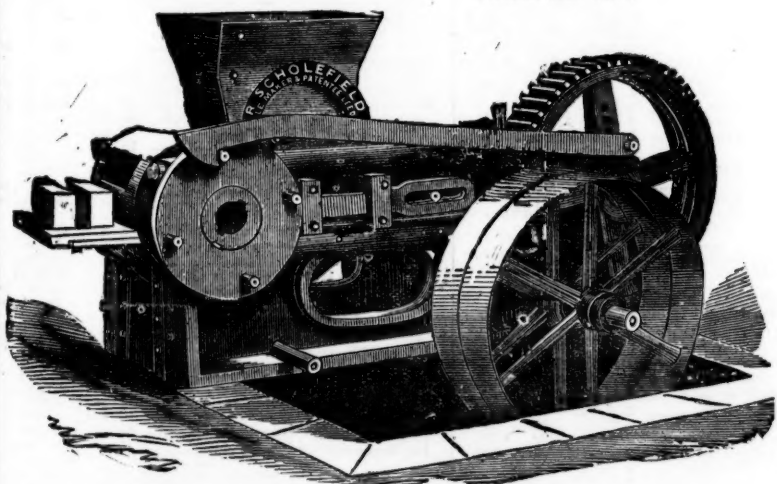
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2 men digging, each 4s. per day	£0 8 0
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1 boy taking off bricks from machine, and placing them in barrow ready for the kiln, 2s. per day	0 2 0
1 boy greasing, 1s. 6d. per day	0 1 6
1 engine-man, 5s. per day	0 5 0
1 man wheeling bricks from machine to kiln, 4s. per day	0 4 0
Total cost of making 10,000 pressed bricks	£1 5 0, or 2s. 6d. per 1000.

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Shares	Mines	Paid.	Last Pr.	Clos. Fr.	Total divs.	Per share.	Last paid		
1500	Alderley Edge, c, Cheshire	10 0 0	—	—	12 6 0	0 8 0	Jan. 1875		
3000	Bampfylde, c, t, Devon	1 0 0	1 1/4	1 1/4	0 2 0	0 2 0	June 1875		
5000	Black Cat, c, t, Devon	3 10 0	—	—	619 10 0	0 0 0	Aug. 1875		
300	Bolton, c, t, St. Just	116 5 0	52 1/2	40 50	2 2 0	0 0 0	Aug. 1875		
10000	Bronfloy, s, i, Cardigan	1 7 6	—	—	3 10 0	0 0 0	Oct. 1875		
4000	Brookwood, c, Buckfastleigh	1 16 0	—	—	4 16 0	0 12 0	Oct. 1875		
3348	Carlisle, s, i, Newlyn	5 10 0	—	—	1 6 0	0 2 0	Aug. 1875		
6400	Cashwell, c, Cumberland	25 0 0	48	50 52 1/2	308 0 0	0 1 0	Feb. 1875		
1000	Carr Brea, c, t, Illogan	5 0 0	—	—	0 7 6	0 7 6	June 1875		
6000	Cath. & Jane, c, t, Penryn	2 10 0	—	—	11 17 0	0 6 0	Jan. 1875		
2450	Cocks Kitchen, c, Illogan	21 9 0	9	9 10	116 10 0	0 12 0	May 1875		
10240	Devon Gt. Consols, c, Tavistock	1 10 0	2 1/2	2 1/2	107 6 0	0 10 0	Aug. 1875		
4296	Dolcoath, c, t, Camborne	10 14 0	47	47 40	0 2 0	0 2 0	July 1875		
6000	Drake Walls, c, t, Calstock	6 0 0	2	1 1/2	0 2 11 0	0 0 6	Feb. 1875		
10000	East Ballewidden, c, t, Sancerre	1 0 0	—	—	14 19 0	0 2 0	Oct. 1875		
6144	East Caradon, c, t, Cleer	2 14 6	1 1/4	1 1/4	229 10 0	0 1 0	July 1875		
300	East Darren, c, t, Cardigan	0 9 9	15	15 16	13 18 0	0 4 0	Sept. 1875		
5400	East Pool, c, t, Illogan	0 9 9	8	7 8	20 7 6	0 7 6	Oct. 1875		
1908	East Wheel, c, t, Wendron	5 19 0	—	—	80 15 0	0 10 0	Sept. 1875		
2000	Foxdale, c, t, Isle of Man	25 0 0	—	—	0 8 4	0 1 0	Sept. 1875		
40000	Glasgow Carr, c, [30,000 £1 p., 10,000 15s. p.]	4 0 0	1 1/2	1 1/2	0 2 0	0 1 0	Aug. 1875		
10000	Great Laxey, c, t, Cardigan	2 0 0	3 1/2	3 1/2	15 12 0	0 2 0	Oct. 1875		
26000	Great West Van, c, t, Cardigan	40 15 0	—	—	0 3 0	0 1 0	Aug. 1875		
6000	Great Wheel Vor, c, t, Helston	0 6 0	4	3 1/2	0 7 0	0 7 0	June 1875		
6400	Great Hurth, c, t, Durham	2 0 0	—	—	0 3 0	0 1 0	Aug. 1875		
20000	Grosvon, c, t, Durham	2 0 0	1 1/4	1 1/4	62 5 0	0 15 0	Oct. 1875		
9880	Gunnislake (Clitters), c, t	8 10 0	3 1/2	2 1/2	4 3 0	0 0 0	Dec. 1875		
1024	Herodfoot, c, t, near Liskeard	2 0 0	—	—	0 8 11 0	0 0 0	Mar. 1875		
18000	Hington Down, c, t, Calstock	2 0 0	1 1/4	1 1/4	568 10 0	0 1 0	Aug. 1875		
25000	Killicote, c, t, Devon	15 15 0	—	—	0 17 6	0 1 0	Jan. 1875		
400	Lebanon, c, t, Cardigan	0 10 0	3 1/4	3 1/4	0 7 2	0 7 2	Jan. 1875		
6120	Levell, c, t, Wendron	0 10 0	—	—	68 18 0	0 2 0	May 1875		
11000	Melindur Valley, c, t, Cardigan	3 0 0	—	—	1 0 0	0 0 0	Apr. 1875		
9000	Minera Mining Co., c, t, Wrexham	5 0 0	7 1/2	5 7 1/2	4 13 0	0 12 0	Sept. 1875		
20000	Mining Co. of Ireland, c, t, c, i	7 0 0	—	—	0 9 0	0 9 0	Sept. 1875		
12000	North Hendre, c, t, Wales	2 10 0	—	—	0 4 0	0 4 0	Oct. 1875		
3000	North Levant, c, t, St. Just	12 2 0	3	3 3/2	0 9 0	0 9 0	Sept. 1875		
27855	Old Treburget, c, t, ordinary shares	1 0 0	—	—	0 1 4 0	0 6 0	July 1875		
9258	Old Treburget, c, t, (10 per cent. pref.)	0 10 0	—	—	0 8 0	0 8 0	Nov. 1875		
9130	Pedn-an-dren, c, t, Redruth	9 17 0	6	4 6	0 3 13 0	0 2 0	July 1875		
5000	Penhale, c, t, St. Agnes	3 0 0	2	1 1/2	0 2 0	0 2 0	Nov. 1875		
45783	Penrith, c, t, St. Agnes	2 0 0	3 1/2	3 1/2	59 19 0	0 4 0	Nov. 1875		
6000	Phoenix, c, t, Linkinhorne	4 13 4	3 1/2	3 1/2	0 11 0	0 2 0	July 1875		
1772	Polberro, c, t, St. Agnes	15 0 0	—	—	104 12 0	0 10 0	Sept. 1875		
18000	Prince Patrick, c, t, Holywell	1 0 0	3 1/2	3 1/2	5 7 6	0 8 6	Sept. 1875		
1120	Providence, c, t, Lelant	16 10 7	3	2 1/2	0 1 0	0 1 0	Oct. 1875		
3000	Queens, c, t, Holywell	2 0 0	12 1/2	11 1/2	722 0 0	0 2 0	Sept. 1875		
12000	Roman Gravel, c, t, Salop	7 10 0	—	—	0 10 0	0 10 0	Sept. 1875		
10000	Shelton, c, t, St. Austell	1 0 0	140	125 135	0 10 0	0 2 0	July 1875		
512	South Caradon, c, t, Cleer	1 5 0	1 1/2	1 1/2	1 7 6	0 5 0	July 1875		
3000	South Carn Brea, c, t, Illogan	2 6 6	1 1/2	1 1/2	1 6 0	0 6 0	Nov. 1875		
6128	South Condurrow, c, t, Camborne	6 6 6	5 1/2	5 1/2	0 9 0	0 9 0	Nov. 1875		
6000	South Darren, c, t, Cardigan	3 6 6	—	—	0 9 0	0 9 0	Nov. 1875		
10000	So. Pr. Patrick, c, t, (8000 sh. issued)	1 0 0	—	—	3 18 0	0 5 0	Aug. 1875		
8771	St. Just Amalgamated, c, t	8 10 0	—	—	48 8 0	0 1 0	Mar. 1875		
12000	Tankerville, c, t, Salop	6 0 0	11 1/2	10 10 1/2	9 11 0	0 10 0	Nov. 1875		
6000	Tinctor, c, t, Pool, Illogan	9 0 0	24 1/2	25 27	15 4 0	0 13 0	July 1875		
16000	Trotter, c, t, Bodmin	2 0 0	3 1/2	3 1/2	62 17 0	0 7 6	Aug. 1875		
4000	Trevelin Consols, c, t, Helston	7 10 0	25	24 26	8 10 0	1 5 0	Aug. 1875		
16000	Van, c, t, Llanidloes	10 0 0	17	16 17 1/2	3 12 0	0 10 0	Oct. 1875		
8000	W. Chiverton, c, t, Perranabuloe	12 10 0	65	61 63	688 10 0	1 10 0	Aug. 1875		
512	West Tolgus, c, t, Redruth	65 10 0	65	61 63	11 5 0	0 5 0	July 1875		
2048	West Wheel Frances, c, t, Illogan	27 3 9	9 1/2	9 10	82 3 0	0 10 0	May 1875		
512	Wheel Basset, c, t, Illogan	5 2 6	5 1/2	5 1/2	522 10 0	4 0 0	Aug. 1875		
2048	Wheel Jane, c, t, Kea	2 13 0	—	—	0 10 0	0 10 0	Dec. 1875		
4296	Wheel Kitty, c, t, St. Agnes	5 4 6	3	2 1/2	0 3 0	0 6 0	Nov. 1875		
806	Wheel Margaret, c, t, St. Just	18 17 6	—	—	62 9 0	0 2 0	Mar. 1875		
80	Wheel Owles, c, t, St. Just	88 5 0	200	150 200	0 3 0	0 6 0	Nov. 1875		
6000	Wheel Russell, c, t, Tavistock	2 0 0	3 1/2	3 1/2	0 1 6	0 6 0	May 1875		
12000	Wheel Whistler, c, t, Warleggan	1 0 0	—	—	62 9 0	0 2 0	Mar. 1875		
26000	Wicklow, c, t, c, t, Wicklow	2 10 0	—	—	0 6 0	0 6 0	Aug. 1875		
1000	Wye Valley, c, t, Montgomery	3 0 0	4	3 1/2					

FOREIGN DIVIDEND MINES.

Shares	Mines	Paid.	Last Pr.	Clos. Fr.	Total divs.	Per share.	Last paid		
85000	Alamillos, c, t, Spain	2 0 0	2 1/2	1 1/2	1 7 9	0 2 0	Mar. 1875		
30000	Almaden and Tinto Consol., c, t	1 0 0	—	—	0 5 3	0 1 0	Mar. 1875		
20000	Australian, c, t, South Australia	7 7 8	2 1/2	1 1/2	0 15 0	0 2 0	July 1875		
10000	Battle Mountain, c, t, (6240 part pd.)	5 0 0	3	2 1/2	0 14 0	0 2 0	June 1875		
16000	Birdseye Creek, c, t, California	4 0 0	1 1/2	1 1/2	0 17 4	0 8 0	Oct. 1875		
6000	Bonanza, c, t, California	10 0 0	—	—	56 0 0	0 10 0	Oct. 1875		
12320	Burra Burra, c, t, So. Australia	5 0 0	—	—	20 15 0	0 1 0	June 1875		
20000	Cape Copper Mining, c, t, So. Africa	7 0 0	35	34 35	0 5 0	0 5 0	June 1875		
4000	Cedar Creek, c, t, California	8 0 0	—	—	0 6 0	0 1 0	May 1875		
30000	Central American Association, c, t	0 16 6	—	—	0 12 0	0 4 0	May 1875		
16000	Chicago, c, t, Utah	10 0 0	—	—	0 13 6	0 4 0	Jan. 1875		
21000	Colorado Terrible, c, t, Colorado	5 0 0	2 1/2	2 1/2	2 6 0	0 6 0	Jan. 1875		
10000	Den Pedro North of the Key	0 16 0	—	—	0 13 0	0 6 0	July 1875		
28500	Eberhardt and Aurora, c, t, Nevada	10 0 0	9	8 1/2	3 12 0	0 6 0	Dec. 1875		
50000	Empire, c, t, Utah	10 0 0	1 1/2	1 1/2	2 10 0	0 2 0	Mar. 1875		
7000	English and Australian, c, t, B. Aust.	10 0 0	1 1/2	1 1/2	0 3 0	0 3 0	Apr. 1875		
16000	Ferguson, c, t, California	2 0 0	—	—	4 2 0	0 5 0	July 1875		
30000	Flagstaff, c, t, Utah	0 0 0	1 1/2	1 1/2	5 0 10 0	0 6 0	Sept. 1875		
26000	Fortuna, c, t, Spain	2 0 0	0 1/2	0 1/2	0 2 4	0 0 0	Oct. 1875		
3000	Gold Run, c, t, Utah	1 0 0	—	—	0 2 4	0 2 4	Oct. 1875		
6000	Kapunda Mining Co., c, t, Australia	1 3 0	3 1/2	3 1/2	0 14 0	0 2 0	July 1875		
3000	Last Chance, c, t, Utah	5 0 0	1 1/2	1 1/2	15 4 2	0 5 0	Sept. 1875		
16000	Linares, c, t, Spain	3 0 0	4 1/2	4 1/2	0 1 0	0 1 0	Oct. 1875		
6000	London and California, c, t	2 0 0	—	—	11 11 6	0 1 6	Mar. 1875		
7837	Lusitanian, c, t, (25 shares)	3 10 0	1	3 1/2	0 4 0	0 4 0	Jan. 1875		
16000	Mammoth Copper Consol., c, t, Utah	10 0 0	—	—	0 6 0	0 6 0	Jan. 1875		
6000	Mammoth Chief, c, t, Utah	10 0 0	—	—	0 6 0	0 6 0	Jan. 1875		
18000	Prussian Mining & Ironworks, c, t, i	30 0 0	19	18 20	19 11 0	0 11 0	Jan. 1875		
10000	Port Phillip, c, t, Clunes	20 0 0	—	—	1 8 0	0 1 0	Jan. 1875		
5400	Richmond Consols, c, t, Nevada	1 0 0	10 1/2	9 1/2	2 14 0	0 7 6	May 1875		
12000	Scottish Australian Mining Co., c, t	1 0 0	1 1/2	1 1/2	12 1/2	per cent.	May 1875		
11250	Sierra Buttes, c, t, California	2 0 0	1 1/2	1 1/2	0 14 0	0 2 0	Nov. 1875		
6000	South Aurora, c, t, Nevada	8 0 0	—	—	3 2 0	0 2 0	Sept. 1875		
2363000	St. John del Rey, c, t, (25 stock and multiples dealt in)	400 410	—	—	0 11 6	0 6 0	Mar. 1875		
15000	Swanland Creek, c, t, California	4 0 0	3 1/2	2 1/2	1 19 4	0 3 0	Apr. 1875		
20000	Tollima, c, t, (8000 sh. are £5 f. pd.)	4 10 0	—	—					
16000	Western Andes, c, t, (New Granada)	5 0 0	—	—					

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines	Paid.	Last Pr.	Clos. Fr.	Last Call.
30000	Anglo-Australian, <i>c, Victoria</i>	2 10 0	—	—	Sept. 1872
3000	Bellavista, <i>s, Peru</i> (£10 shares).....	10 0 0	—	—	Fully pd.
30000	Blue Tent, <i>hyd, California</i>	5 0 0	8	4½ 4½	Fully pd.
60000	Braganza, <i>s, Brazil</i>	0 16 0	—	—	Oct. 1870
12000	Camp Floyd, <i>s, Utah</i>	10 0 0	—	—	Fully pd.
26000	Cesena Sulphur company, <i>Romagna, Italy</i>	10 0 0	—	—	Fully pd.
60152	Chontales, <i>s, Nicaragua</i> * (and 12,642 of £1 ls.).....	2 0 0	—	½ ½ ½	Fully pd.
6000	Clifton, <i>s, Colorado</i>	5 0 0	—	—	Fully pd.
10000	Crescent, <i>c, Plumas County, California</i>	10 0 0	—	—	Fully pd.
100000	Cuba, <i>s, Minas Geraes, Brazil</i>	0 17 6	—	—	June 1872
10000	Douglas, <i>s, Georgetown, Col.</i>	5 0 0	—	—	Fully pd.
40000	Excelsior Hydraulic Gold Washing Co., <i>California</i>	6 0 0	—	—	Dec. 1871
60000	Exchequer, <i>s, California</i>	1 0 0	—	—	Fully pd.
56000	Frontino and Bolivia, <i>s, New Granada</i>	2 0 0	1	¾ 1¾	Fully pd.
60000	General Brazilian, <i>s, Georgetown, Col.</i>	1 0 0	—	—	Fully pd.
10000	Goetzeld Tunnel, <i>s, California</i>	7 0 0	—	—	Fully pd.
40000	Holcombe Valley, <i>s, California</i>	7 0 0	—	—	Fully pd.
6000	Hornachos, <i>s, s, t, (£10 shares) Spain</i>	10 0 0	—	—	July 1873
20000	Imperial Brazilian Collieries, <i>Brazil</i>	5 0 0	—	—	Fully pd.
20000	Independence, <i>c, California</i>	5 0 0	2½	3 2½	Fully pd.
30000	I. X. L., <i>s, California</i>	5 0 0	—	—	Fully pd.
50000	Javali, <i>s, Nicaragua</i>	3 0 0	—	¾ ¾ ¾	Fully pd.
13000	Lanestosa, <i>s, s, t, s, Viscaya, Spain</i> (£2 shares).....	1 12 6	—	—	Sept. 1874
76000	Malabar, <i>c, Colombia</i> * (66000 issued).....	1 0 0	¾	¾ ¾	Fully pd.
6000	Malaga, <i>t, Spain</i>	10 0 0	—	—	Fully pd.
40000	Malpais, <i>c, Colombia</i> (2000 pref. shares, fully paid) ...	1 0 0	—	¾ ¾	Fully pd.
12000	Menzenberg, <i>c, Honnet, Germany</i>	5 0 0	—	—	Fully pd.
6000	Monte Loreto, <i>c, c, Italy</i>	5 0 0	—	—	Fully pd.
15000	New Pacific, <i>c, s, Nevada</i>	0 10 0	¾	¾ ¾	Dec. 1874
6000	New Quebrada, <i>c, Venezuela</i>	5 0 0	4	5½ 4	Fully pd.
6000	New Rosario, <i>s, Mexico</i>	1 0 0	—	¾ ¾ ¾	Fully pd.
10000	New Zealand, <i>s, s, s, c, Coromandel</i>	5 0 0	1½	¾ ¾ 1¾	Fully pd.
60000	(of Ontario) <i>land, s, Nevada</i>	10 0 0	—	—	Fully pd.
20000	North American, <i>c, Chile</i>	4 0 0	—	—	Fully pd.
60000	Panuleldo, <i>c, Chile</i> * (280000 debentures).....	3 0 0	1½	¾ 1½	Fully pd.
20000	Pastarena United, <i>c, Italy</i> *.....	3 0 0	—	—	Fully pd.
76000	Rica, <i>c, Colombia</i> * (40000 issued).....	1 0 0	¾	¾ ¾	Fully pd.
100000	Rio Tinto, <i>c, s, Huelva, Spain</i>	10 0 0	8	7 8	Fully pd.
10000	Rosana Grande, <i>c, Brazil</i> (£1 shares).....	0 19 0	—	—	July 1872.
25000	Ruby Consolidated, <i>s, Nevada</i>	10 0 0	—	—	Fully pd.
20000	Russia, <i>c, Orenburg and Utah</i> *.....	10 0 0	2½	2½ 3	Fully pd.
26000	San Pedro, <i>c, Chile</i>	2 0 0	1½	1½ 1½	Fully pd.
40000	Santa Barbara, <i>s, Brazil</i>	0 9 0	¾	¾ ¾	Mar. 1873
60000	Silver Plume, <i>s, Colorado</i>	1 0 0	—	—	Fully pd.
27600	Snowdrift, <i>s, Colorado</i>	2 0 0	—	—	Fully pd.
26000	St. Lawrence, <i>s, California</i>	5 0 0	—	—	Fully pd.
60000	Trecoma, <i>s, Utah</i>	10 0 0	¾	¾ ¾	Fully pd.
10000	Thornhill Reef, <i>s, Australia</i>	1 0 0	¾	¾ ¾	Fully pd.
43174	United Mexican, <i>s, Mexico</i> *.....	28 12 8	3	2½ 3½	May 1875
14000	Utah, <i>c, s, Utah</i>	5 0 0	—	—	Fully pd.
20000	Victoria (London), <i>s, Australia</i> (25,000 sh. p. s.).....	1 0 0	—	¾ ¾ ¾	Fully pd.
75000	Yorke Peninsula, <i>c, South Australia</i>	1 0 0	—	¾ ¾ ¾	Fully pd.
40000	Yorke Peninsula, <i>c, South Australia Preference</i>	1 0 0	1	¾ ¾ 1	Fully pd.